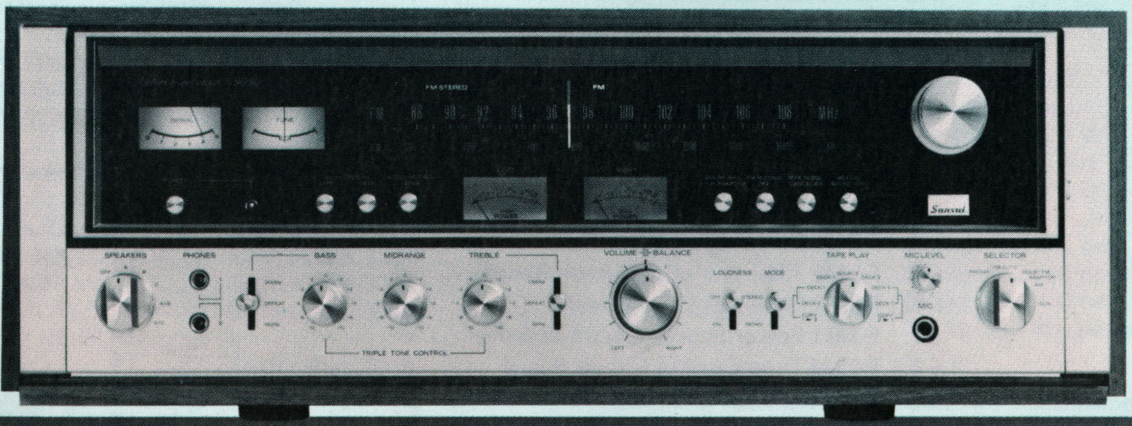
SERVICE MANUAL

AM/FM STEREO RECEIVER

SANSUI 9090/8080



Sansui

SANSUI ELECTRIC CO., LTD.

NOTE:

This service manual includes two model numbers, #9090 and #8080 together as indicated Model Ⓐ and Ⓑ in parts lists, schematic diagram and others.

MODEL Ⓐ .... #9090
MODEL Ⓑ .... #8080

When ordering parts, use the parts name and stock No. after confirming either Model Ⓐ or Ⓑ.

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1. SPECIFICATIONS

AUDIO SECTION

POWER OUTPUT
Min. RMS, both channels driven, from 20 to 20,000Hz, with no more 0.2% total harmonic distortion

*MODEL Ⓐ: 110 watts per channel into 8 ohms
Min. RMS, both channels driven, at 1kHz, with no more than 0.2% total harmonic distortion 120 watts per channel into 8 ohms

*MODEL Ⓑ: 80 watts per channel into 8 ohms
Min. RMS, both channels driven, at 1kHz, with no more than 0.2% total harmonic distortion 90 watts per channel into 8 ohms

LOAD IMPEDANCE .... 8 ohms
POWER BANDWIDTH ...... 20 to 20,000Hz at or below rated min. RMS power output and total harmonic distortion
TOTAL HARMONIC DISTORTION
.... less than 0.2% at or below rated min. RMS power output
INTERMODULATION DISTORTION
(70Hz : 7kHz=4 . 1 SMPTE method)
.... less than 0.2%
FREQUENCY RESPONSE (at 1 watt)
.... 10 to 30,000Hz ±1dB
RIAA CURVE DEVIATION (PHONO)
.... +0.5dB, −0.5dB (30Hz to 15kHz)
DAMPING FACTOR .... approximately 10 at 8 ohm load
INPUT SENSITIVITY AND IMPEDANCE
(1kHz. for rated power output)
PHONO .... 2.5mV/50 kilo ohms
(Max. input capability : 200mV at 1kHz, less than 0.2% total harmonic distortion.)
TAPE PLAY, AUX .... 100mV/50 kilo ohms
OUTPUT LEVEL (1,000Hz)
TAPE-1, 2 REC (pin jacks)
.... 100mV
TAPE-2 REC/PLAY (DIN socket)
.... 30mV
PRE OUT 750mV
CHANNEL SEPARATION (at rated output 1,000Hz)
PHONO .... better than 50dB
TAPE PLAY, AUX ...... better than 50dB
HUM AND NOISE
PHONO .... better than 70dB
TAPE PLAY, AUX ...... better than 80dB
CONTROLS
BASS .... ±10dB (50Hz)
*MODEL Ⓐ ONLY
TONE SELECTOR (turnover frequency)
.... 150, 300Hz
MIDRANGE .... ±5dB (1.5kHz)
TREBLE .... ±10dB (10kHz)
*MODEL Ⓐ ONLY
TONE SELECTOR (turnover frequency)
.... 1.5, 3kHz
LOUDNESS .... +10dB (50Hz)
+8dB (10kHz)
LOW FILTER .... −10dB (50Hz)
HIGH FILTER .... −10dB (10kHz)
AUDIO MUTING .... −20dB

FM SECTION

TUNING RANGE .... 88 to 108MHz
SENSITIVITY (IHF) 1.7μV
(DIN) 0.9μV
QUIETING SLOPE (Mono) .. 3μV (50dB)
TOTAL HARMONIC DISTORTION
STEREO .... less than 0.3%
MONO .... less than 0.2%
SIGNAL TO NOISE RATIO (mono)
SELECTIVITY .... better than 85dB
CAPTURE RATIO .... less than 1.5dB
IMAGE REJECTION .... better than 75dB (98MHz)
IF REJECTION .... better than 90dB (98MHz)
SPURIOUS REJECTION ...... better than 90dB (98MHz)
SPURIOUS RADIATION .... less than 34dB
STEREO SEPARATION ...... better than 40dB (1kHz)
FREQUENCY RESPONSE .... 30 to 15,000Hz $^{+0.5}_{-2.0}$ dB
ANTENNA INPUT IMPEDANCE
.... 75Ω unbalanced
300Ω balanced

AM SECTION

TUNING RANGE .... 535 to 1,605kHz
SENSITIVITY (Bar antenna) .. 50dB/m (1,000kHz)
SELECTIVITY .... better than 50dB (1,000kHz)
IMAGE REJECTION .... better than 80dB/m (1,000kHz)
IF REJECTION .... better than 80dB/m (1,000kHz)

OTHERS

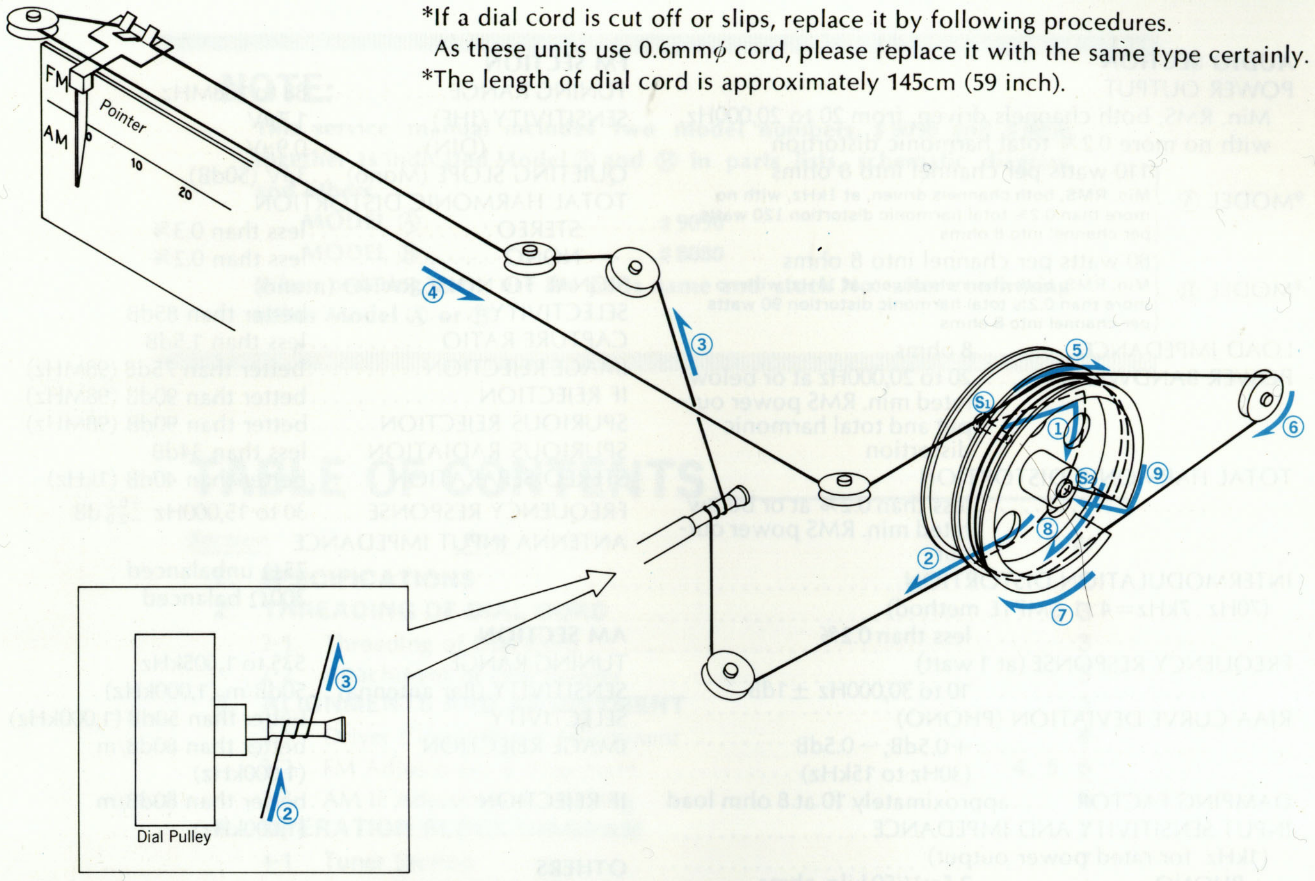
POWER REQUIREMENTS
POWER VOLTAGE 100, 120, 220, 240V (50/60Hz)
POWER CONSUMPTION
*MODEL Ⓐ .... 270 watts (rated)
*MODEL Ⓑ .... 180 watts (rated)
DIMENSIONS .... 540mm (21-5/16") W
182mm (7-3/16") H
399mm (15-11/16") D
WEIGHT
*MODEL Ⓐ .... 23.3 kg (51.4 lbs) net
25.7 kg (56.7 lbs) packed
*MODEL Ⓑ .... 20.9 kg (46.1 lbs) net
23.3 kg (54.1 lbs) packed

NOTE: In this specifications, there are two model numbers as model Ⓐ and Ⓑ. Regarding name of model Ⓐ, Ⓑ, please refer to "Notes" indicated on page 1.

* Design and specifications subject to change without notice for improvements.

2. THREADING OF DIAL CORD

*If a dial cord is cut off or slips, replace it by following procedures.
As these units use 0.6mmφ cord, please replace it with the same type certainly.
*The length of dial cord is approximately 145cm (59 inch).



2-1. Threading of Dial Cord

Thread the dial cord in numerical order from ① to ⑨ as Fig. 2-1.

1) Close the variable capacitor completely (Max. capacitance).
2) Tie dial cord to the screw, S1.
3) Thread cord in the direction of arrow from ① to ⑨
4) After ⑨, tie the cord to the screw S2 of the dial pulley.

2-2. Attachment of Dial Pointer

1) Close the variable capacitor completely.
2) Set the dial pointer to the 0 position on dial scale.

*Confirm that the dial pointer runs smoothly on the dial scale by turning the tuning shaft.

Stock No.	Description
6036051	Dial Cord (0.6mmφ)
6146670	D44 Type Pulley

3. ALIGNMENTS AND ADJUSTMENT

Abbreviation

Equipment

AM FM Generator Oscilloscope ....Genescope
AM Signal Generator ....AM SG
FM Signal Generator ....FM SG
Multiplex Stereo Generator ....Scope
Oscilloscope.................................Audio Osc.
Audio Oscillator ....Dist. Meter

Others

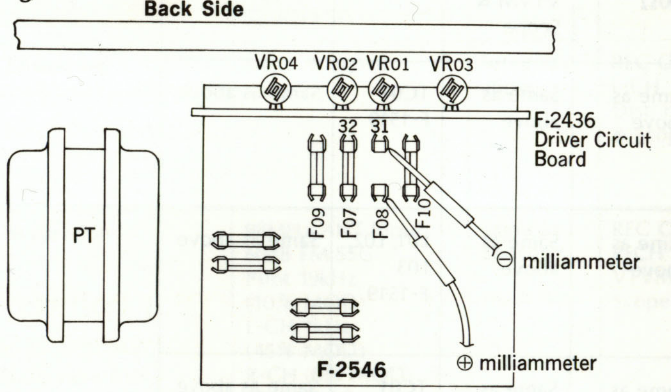
Clockwise...CW.
Counterclockwise ....CCW.
Antenna ....ANT.
Modulation ....MOD.

3-1. Driver Circuit Board Adjustments (See Fig. 3-1, 3-2 on page 4)

Note: 1. Master Volume....................Minimum
2. Before adjustment, run the unit for more than 4 minutes, then check and readjust necessary.

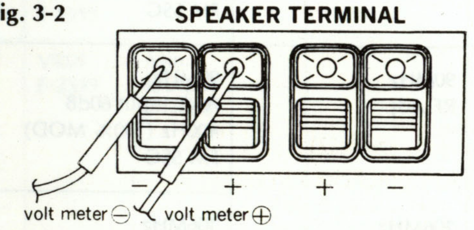
STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	DC 0V L-CH	DC volt Meter	Speaker Terminal L-CH	VR01 F-2436	0V ±10mV	◦ Step down meter range accordingly. ◦ Change leads polarity if meter swings backward.
2.	DC 0V R-CH	Same as above	Speaker Terminal R-CH	VR02 F-2436	Same as above	Same as above
3.	Bias Current L-CH	DC Milliammeter	F07 F-2546	VR03 F-2436	*MODEL Ⓐ 50mV ±1mA *MODEL Ⓑ 30mA ±1mA	◦ Step down meter range accordingly
4.	Bias Current R-CH	Same as above	F08 F-2546	VR04 F-2436	Same as above	◦ Same as above

Fig. 3-1



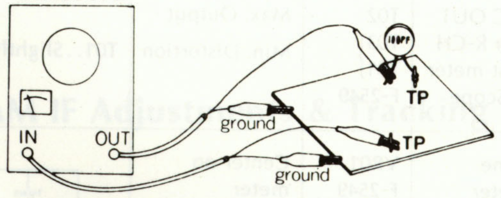
Note: In adjustment above, there are two model numbers as model Ⓐ and Ⓑ. Regarding name of model Ⓐ, Ⓑ, please refer to "Note" indicated on page 1.

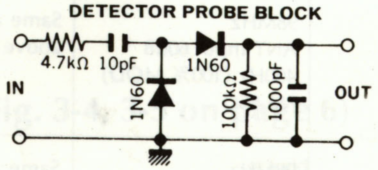
Fig. 3-2

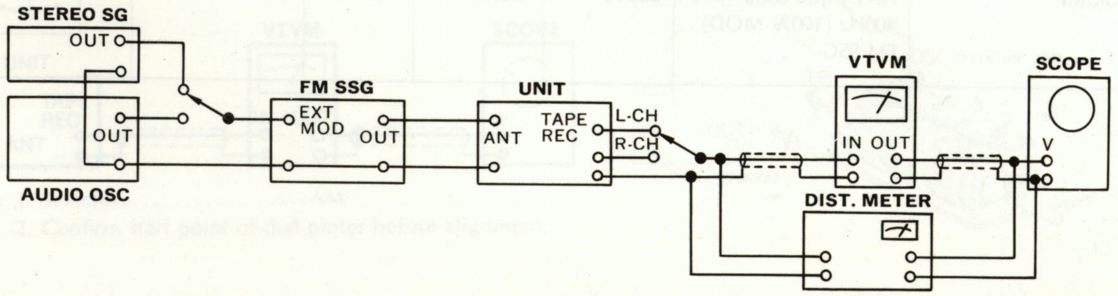


3-2. FM Adjustment & Alignment

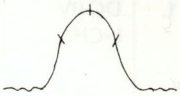
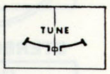
Note: 1. Selector....................FM AUTO   2. FM MUTING Switch ....OFF
3. Connection.........Connect the output of genescope to TP through 100pF ceramic capacitor.
4. Output level of genescope..........After attenuator
Sweep width ....1.5~2cm/150kHz
Frequency band ....9.5~11.5MHz







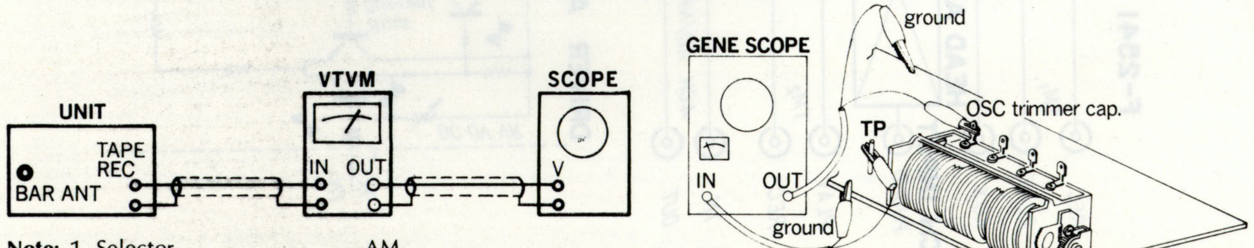
1) FM IF Adjustment & Tracking (See Fig. 3-3, 3-4, 3-5 on page 6)

STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	IF coil	Output 90dB Genescope	TP01 FM, AM Pack F-1519	Terminal 01 of F-2549. Use Detector Probe	L05 F-1519	Max. IF waveform	
		Output 50dB Genescope	Same as above	TP01 F-2549	T01 F-2549	Same as above	
2.	Muting Coil	Output 50dB Genescope	Same as above	TP04 F-2549	T04 F-2549	Same as above	
3.	Discriminator Coil	Output 50dB Genescope	Same as above	TP03 F-2549	T02 T03 F-2549	Max. linearity of S Curve	
4.	90MHz Dial Calibration	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	ANT Terminal 300Ω	REC OUT L or R-CH VTVM & Scope	L06 F-1519	Max. Output	
	106MHz Dial Calibration	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC04 F-1519	Same as above	
5.	90MHz RF Adj.	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	L01, L02, L03 F-1519	Same as above	
	106MHz RF Adj.	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC01 TC02 TC03 F-1519	Same as above	
6.	Signal Meter Volume	98MHz ANT Input 100dB 400Hz (100% MOD) FM SSG	Same as above	Signal Meter	VR02 F-2549	4.7 on meter	
7.	Distortion	98MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	REC OUT L or R-CH Dist meter & Scope	T02 T03} T01} F-2549	Max. Output Min. Distortion	T01..Slightly adjust
8.	Tune Meter Volume	98MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Tune meter	VR01 F-2549	Center on meter	

2) MPX Alignment (See Fig. 3-4, 3-5 on page 6)

STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	PLL VCO Adj.	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH 1kHz (45% MOD) R-CH (0% MOD) STEREO SG	ANT Terminal 300Ω	Stereo Indicator	VR04 F-2549	Light Indicator	Adjust the VR within center of lighting level.
	PLL VCO Adj. In case of using Freq Counter		Make short between TP03 of F-2549 and chassis	TP02 F-2549 Use Freq. Counter	VR04 F-2549	76kHz (±200Hz)	
2.	Separation	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH (0% MOD) R-CH 1kHz (45% MOD) STEREO SG	ANT Terminal 300Ω	REC OUT L-CH VTVM & Scope	VR05 F-2549	Min. Output −35dB	
3.	Distortion	Same as above	Same as above	REC OUT L-CH Dist. meter & Scope	L05 1 Side 2 Side AM, FM Pack F-1519	Min. Distortion	If less than 0.3%, adjust L05 slightly.
4.	Separation	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH 1kHz (45% MOD) R-CH (0% MOD) STEREO SG	Same as above	REC OUT R-CH VTVM & Scope	VR05 F-2549	Min. Output −30dB	
5.	Muting level & Indicator level	98MHz ANT Input 23dB FM SSG Pilot 19kHz(10%MOD) L-CH 1kHz (45% MOD) R-CH (0% MOD) STEREO SG	Same as above	Stereo Indicator	VR03 F-2549	Muting level 23dB Indicator lighting level 23dB	

3-3. AM IF Adjustments & Tracking (See Fig. 3-4, 3-5 on page 6)



Note: 1. Selector..................AM
2. Confirm start point of dial pinter before alignment.

STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	IF Coil	Genescope Output 70dB	TC05 FM, AM Pack F-1519	TP06 F-2549	CF04 F-2549	Max. Output	
2.	600kHz Dial Calibration	600kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	AM ANT Terminal	REC OCT L or R-CH VTVM & Scope	T05 F-2549	Same as above	
	1400kHz Dial Calibration	1400kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	TC05 FM, AM Pack F-1519	Same as above	
3.	600kHz RF Adj.	600kHz ANT Input 50dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	Bar Antenna T702	Same as above	
	1400kHz RF Adj.	1400kHz ANT Input 50dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	TC06 FM, AM Pack F-1519	Same as above	
4.	Signal Meter	1000kHz ANT Input 80dB	Same as above	Signal Meter	VR06 F-2549	4.3 on meter	

Fig. 3-3

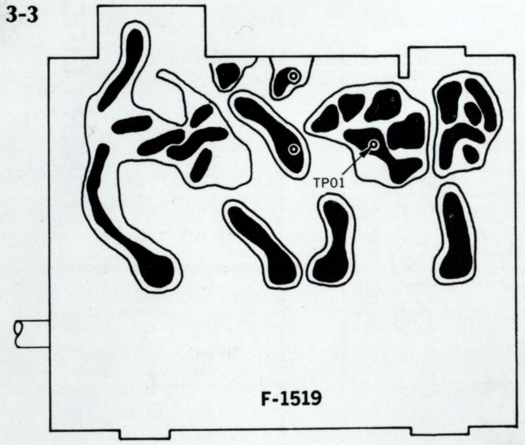


Fig. 3-4

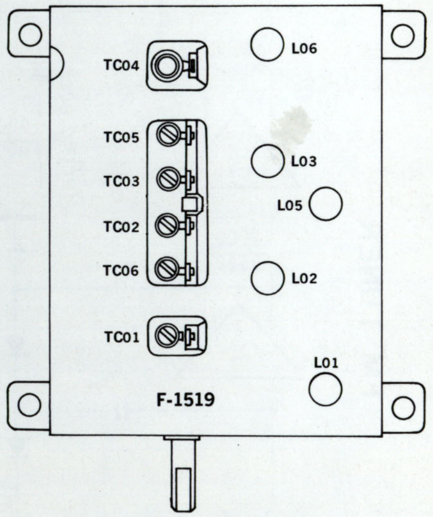
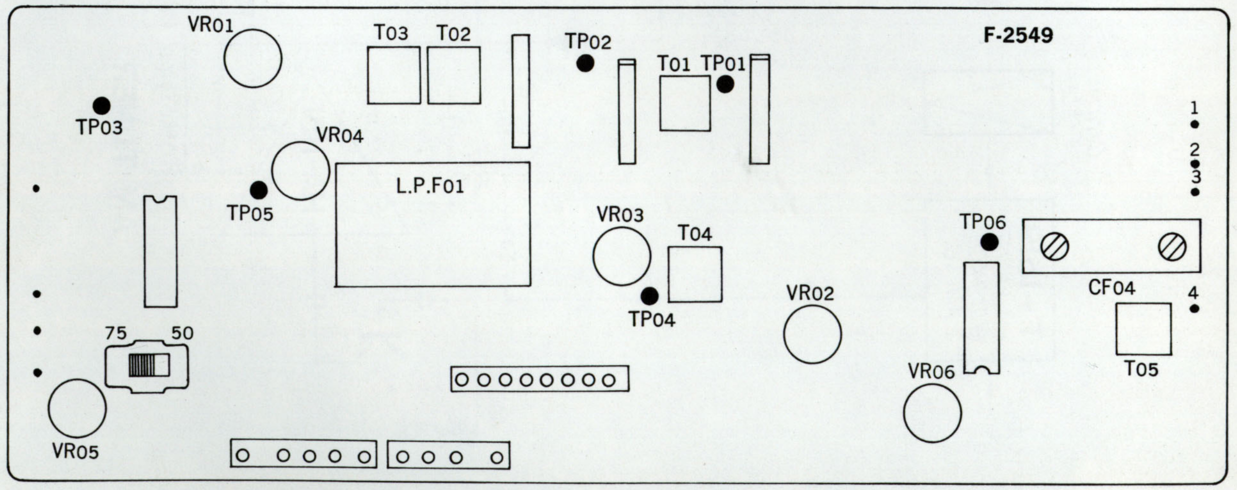
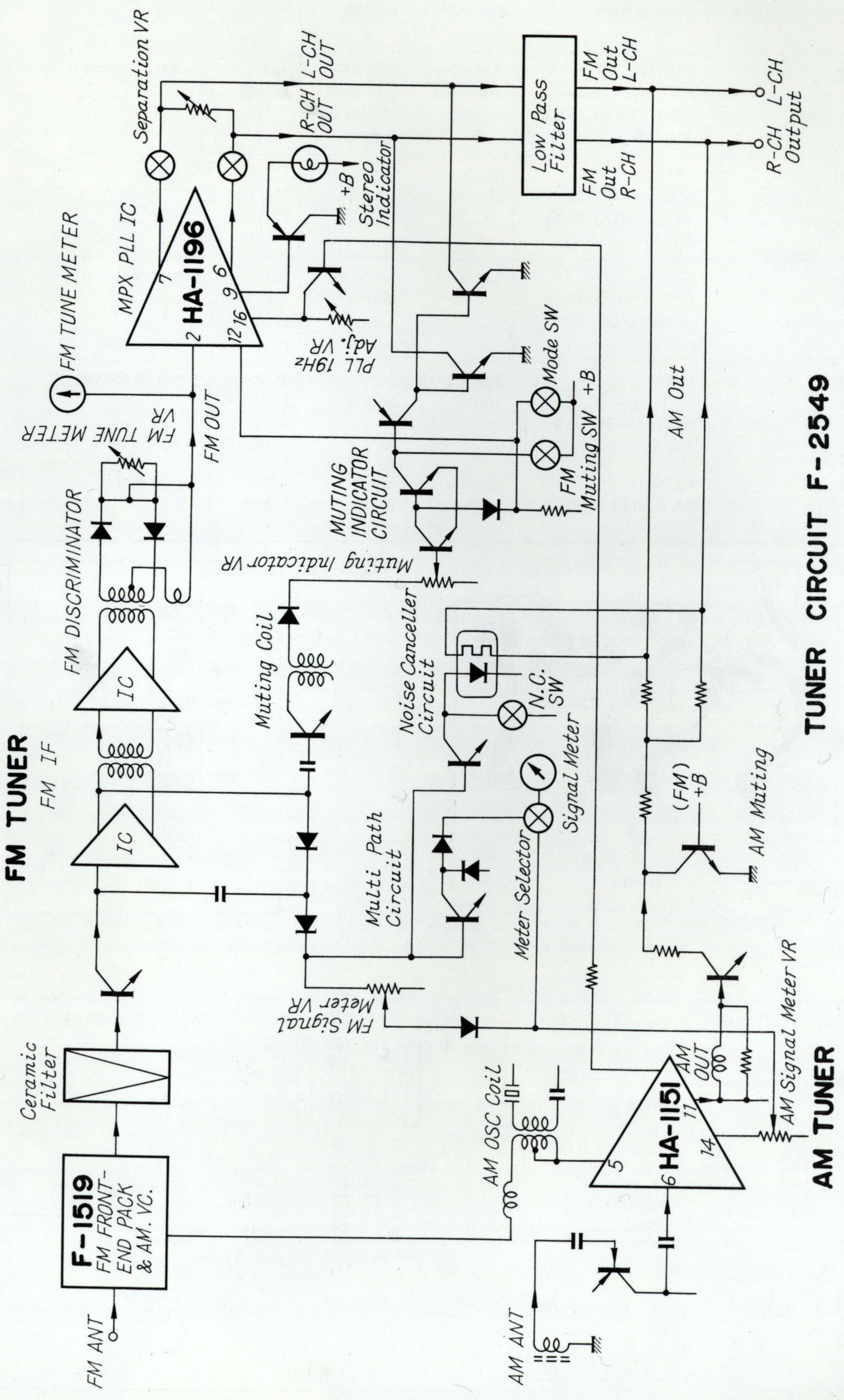


Fig. 3-5

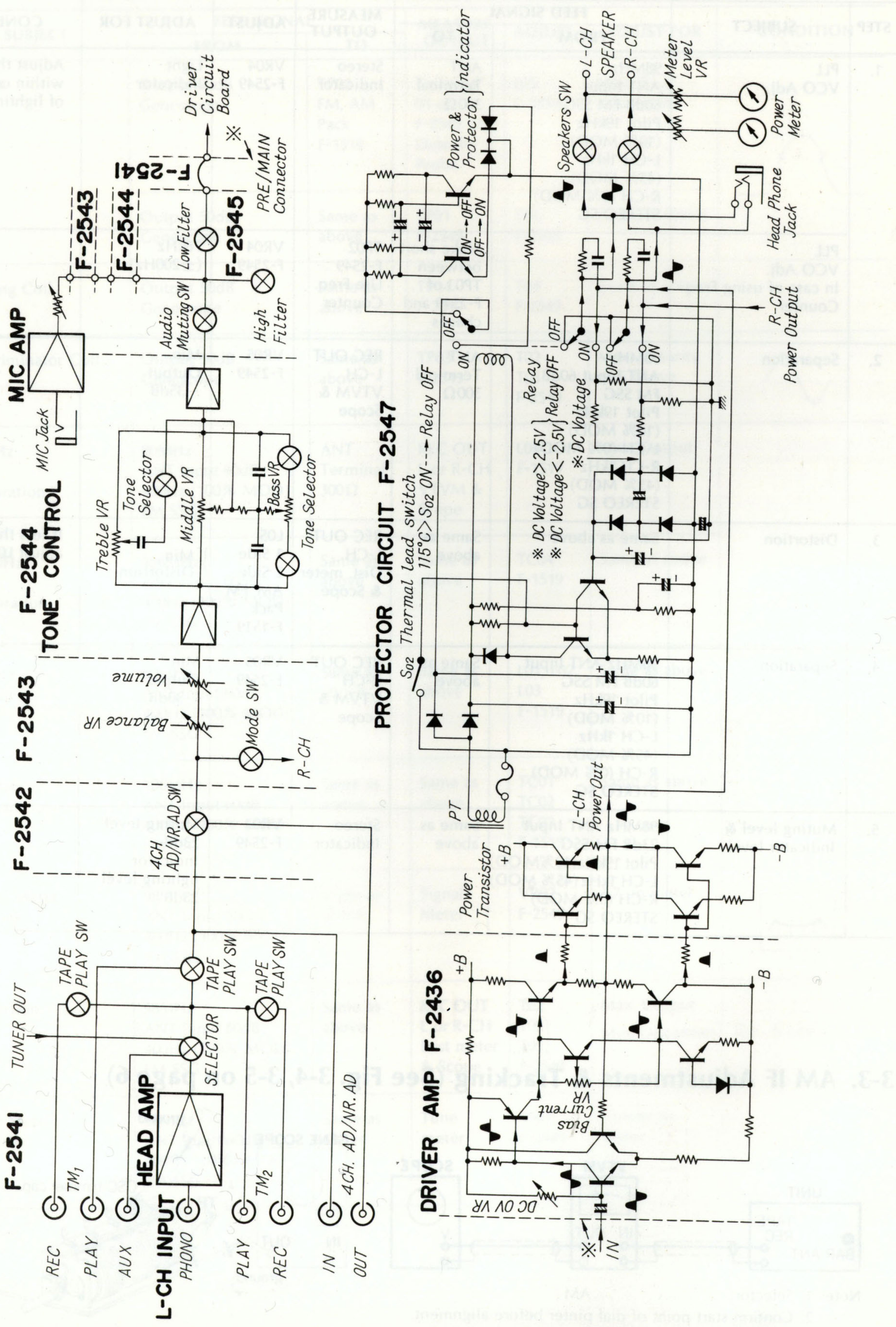


4. OPERATION BLOCK DIAGLAM

4-1. Tuner Section



4-2. Audio Section



5. TROUBLESHOOTING CHART

5-1. Audio Section

Symptom	Defective Circuit or Check Point	Cause
1) Troubles on Power Supply section	Defective parts in circuit on primary side of power transformer	1. Power fuse, F701 opens 2. Defective power switch, S701 3. Imperfect contact of voltage selector
	Defective rectifier circuit in secondary side of power transformer	1. AC fuse, F01~F06 opens 2. Defective diode, D02, D03 on F-2546
	Defective or regulated power supply section	1. Defective D01 on F-2546 2. Defective TR01~TR03 on F-2546
2) Troubles on protector section	Protector circuit inoperative when DC voltage is given to output of power stage	1. Defective D04~D07 on F-2547 2. Defective TR01, TR02 on F-2547 3. Defective relay, RL01
	Defective protection circuit with thermal lead switch	1. Defective thermal lead switch, S702 2. Defective TR01, TR02 on F-2547 3. Defective relay, RL01
	Protector indicator does not flicker	1. Defective TR03, TR04 on F-2547 2. Defective C06, C07 on F-2547 3. Defective LED01 on F-2548
3) Troubles on Power AMP. section	Quick acting fuse opens	1. Power transistor shorted 2. Defective TR11~TR14 on F-2436 3. TR07 on F-2436 opens 4. Defective protector circuit
	One channel inoperative	1. Defective TR01~TR03 on F-2436
	Over-flow bias current	1. Incorrect adjustment VR03, VR04 on F-2436
4) Troubles on Tone Control section	Inoperative tone control circuit	1. Defective IC01 on F-2544 2. Defective TR01 on F-2544
	Noise is produced by turning tone volume controls	1. Defective tone control volume VR01, VR02 on F-2544
5) Troubles on MIC AMP. section	Inoperative Mic AMP. circuit	1. Defective IC601 on F-2543 2. Defective TR601 on F-2543 3. Imperfect contact of MIC Jack
6) Troubles on Equalizer section	Inoperative equalizer circuit	1. Defective IC01, IC02 on F-2541 2. Imperfect contact of selector 3. Imperfect contact of Tape switch
7) Power meter inoperative	Meter circuit inoperative	1. Imperfect adjustment of VR01, VR02 on F-2547 2. Defective M701, M702 3. Defective D10~D12 on F-2547

5-2. Tuner Section

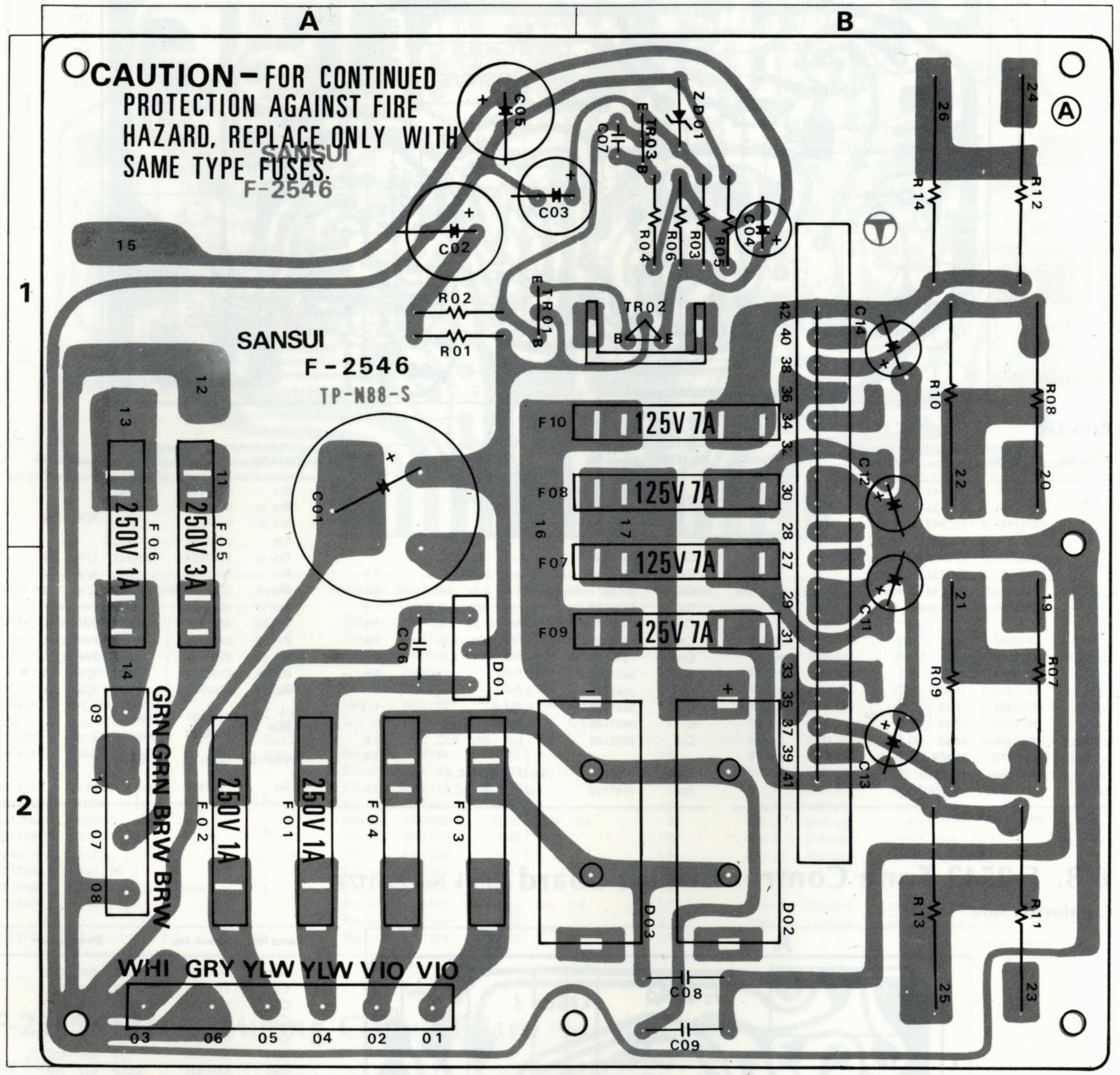
Symptom	Defective Circuit or Check Point	Cause
1) Both AM and FM inoperative	Power supply section inoperative	1. Defective TR01 on F-2431 2. Imperfect contact of selector switch
2) AM inoperative	Defective semiconductors	1. Defective TR12 on F-2549 2. Defective IC05 on F-2549 3. Defective TR13, TR14 on F-2549
	Defective coils	1. Osc coil opens 2. Bar antenna coil opens
3) AM poor sensitivity	Incorrect adjustment	1. IF or Tracking out of adjustment
4) Signal meter does not properly operate	Defective meter circuit	1. Signal meter volume, VR06 out of adjustment 2. Defective signal meter, M703
5) FM inoperative	Defective FRONT-END PACK F-1519	1. Defective FET01, TR01, 02 on F-1519 2. Coil, L01~L06 on F-1519 opened
	Defective IF section	1. Defective TR01~TR03 on F-2549 2. Defective IC01~IC03 on F-2549 3. T01, T02 on F-2549, opened
6) FM poor sensitivity	Incorrect adjustment	1. RF and Tracking out of adjustment 2. IF coil and discriminator coil out of adjustment
	Poor FM input signal	1. Weak electric field intensity area
7) Signal meter does not properly operate	Defective meter circuit	1. Defective D05~D07 on F-2549 2. Signal meter volume VR02 out of adjustment
8) MPX inoperative	Defective PLL circuit Defective semiconductors	1. Defective IC04 on F-2549 2. TR10, TR11 on F-2549 shorted
9) No channel separation on FM stereo reception	Incorrect adjustment	1. Muting coil, T04 out of adjustment 2. Muting, Indicator volume, VR03 out of adjustment 3. Free-run frequency adjust. Volume, VR04 out of adjustment 4. Separation volume, VR05 out of adjustment 5. Defective TR08 on F-2549
10) Troubles on Muting indicator circuit	Muting inoperative	1. Defective TR05~TR07 on F-2549 2. T04, VR03 on F-2549 out of adjust-ment 3. TR10, TR11 opens
11) Stereo indicator does not light up	Indicator circuit inoperative	1. Defective TR04, TR05 on F-2549 2. T04, VR03 on F-2549 out of adjust-ment 3. TR09 on F-2549 opens 4. Stereo indicator lamp, PL707 opens

6. PARTS LOCATION AND PARTS LIST

6-1. F-2546 Power Supply Circuit Board

(Stock No. 7501281 MODEL Ⓐ)
(Stock No. 7501271 MODEL Ⓑ)

Conductor Side



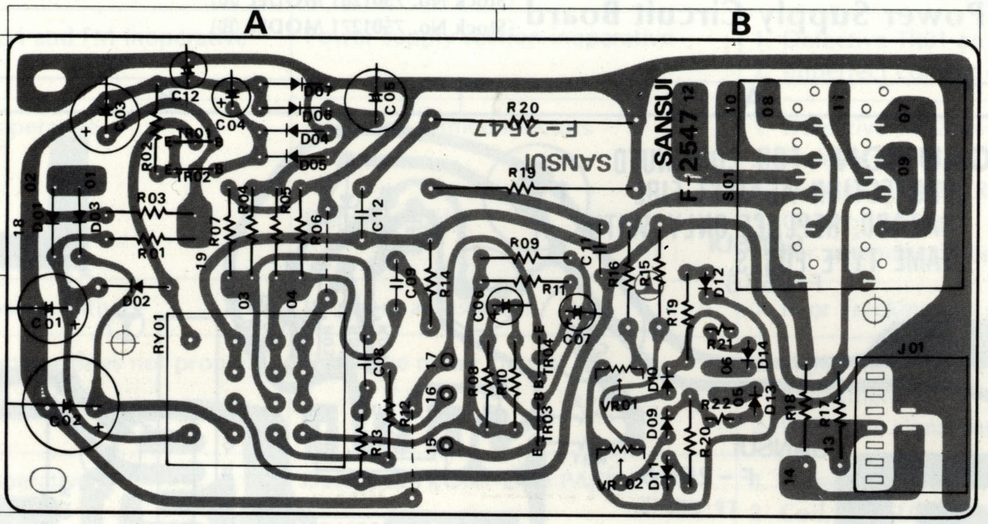
Parts List

Parts No.	Stock No.	Description	Position
TR01	0305930, 1	2SC1211 (C, D) Transistor	1 A
TR02	0308390, 2	2SD313 (C, D, E) Transistor	1 B
TR03	0305930, 1	2SC1211 (C, D) Transistor	1 B
D01	0310530	1S1850 Diode	2 A
	0310800	10DC2 Diode	
	0311420	C08P-2-N Diode	
D02	0311310	SS-5 Diode	2 B
D03	0311320	SS-5R Diode	2 A, B
ZD01	0315970	EQA01-13R Diode	1 B
C01	0549206	1000μF 63V E.C.	1, 2 A
C02	0515221	220μF 50V E.C.	1 A
C03	0512101	100μF 16V E.C.	1 A, B
C04	0515470	47μF 50V E.C.	1 B
C05	0515101	100μF 50V E.C.	1 A
C06	0655103	10000pF 500V C.C.	2 A
C07	0657221	220pF 50V C.C.	1 B
C08	0655103	10000pF 500V C.C.	2 B
C09	0655103	10000pF 500V C.C.	2 B
C11	0539001	4.7μF 80V E.C.	2 B
C12	0539001	4.7μF 80V E.C.	1 B
C13	0539001	4.7μF 80V E.C.	2 B
C14	0539001	4.7μF 80V E.C.	1 B
R01	0107332	3.3kΩ 1/4W C.R.	1 A
R02	0107332	3.3kΩ 1/4W C.R.	1 A
R03	0107472	4.7kΩ 1/4W C.R.	1 B
R04	0107102	1Ω 1/4W C.R.	1 B
R05	0107223	22kΩ 1/4W C.R.	1 B
R06	0107333	33kΩ 1/4W C.R.	1 B
R07	0135338	0.33Ω 5W Ce.R.	2 B
R08	0135338	0.33Ω 5W Ce.R.	1 B
R09	0135338	0.33Ω 5W Ce.R.	2 B
R10	0135338	0.33Ω 5W Ce.R.	1 B
R901	0152220	22Ω 2W	
F01, 02	0431220	AC Fuse 1A	2 A
F05	0431260	AC Fuse 3A	
F06	0431220	AC Fuse 1A	
	2310050	P Type Fuse Holder	
	2310150	P Type Fuse Holder T-1	
01	2420170, 1	18P Multi Connector	
***MODEL Ⓐ only**			
R11~14	0135338	0.33Ω 5W Ce.R.	1, 2 B
F07, 08	0431290	AC Fuse 6A	2 A . 1 A
***MODEL Ⓑ only**			
F07, 10	0431280	AC Fuse 5A	2 A . 1 A

Note: In parts list above, there are two model numbers as model Ⓐ and Ⓑ.
Regarding name of model Ⓐ, Ⓑ, please refer to "Notes" indicated on page 1.

6-2. F-2547 Protector Circuit Board (Stock No. 7593111)

Conductor Side



Parts List

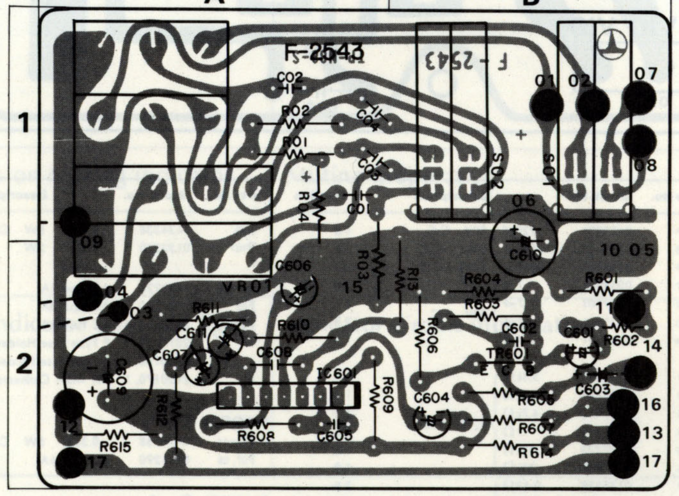
Parts No.	Stock No.	Description		Position
TR_{01}	0305951, 3 0306131, 3	2SC945 (Q, P, K) 2SC1364 (6, 7, 8)	Transistor	1 A
TR_{02}	0305951, 3 0306131, 3	2SC945 (Q, P, K) 2SC1364 (6, 7, 8)	Transistor	1 A
TR_{03}	0305951, 3 0306131, 3	2SC945 (Q, P, K) 2SC1364 (6, 7, 8)	Transistor	2 B
TR_{04}	0305951, 3 0306131, 3	2SC945 (Q, P, K) 2SC1364 (6, 7, 8)	Transistor	2 B
D_{01}	0310340	10D1	Diode	1 A
D_{02}	0310340	10D1	Diode	2 A
D_{03}	0310340	10D1	Diode	1 A
D_{04}	0310330, 1	1N60	Diode	1 A
D_{05}	0310330, 1	1N60	Diode	1 A
D_{06}	0310330, 1	1N60	Diode	1 A
D_{07}	0310330, 1	1N60	Diode	1 A
$D_{08, 09}$	0310970	1N60P	Diode	2 B
$D_{11, 12}$	0311160 0311180	1S2473D 1S1588	Diode	2 B

Parts No.	Stock No.	Description	Position
$D_{13, 14}$	0310970 0311060	1N60P 1N60-P } Diode	2 B
LD_{01}	0319040	GL-40RG8 L.E.D	
C_{01}	0513330	33μF 25V E.C.	
C_{02}	0514221	220μF 35V E.C.	2 A
C_{03}	0510471	470μF 6.3V E.C.	2 A
C_{04}	0515109	1μF 50V E.C.	1 A
C_{05}	0530470	47μF 6.3V E.C.	1 A
C_{06}	0515109	1μF 50V E.C.	1 A
C_{07}	0515109	1μF 50V E.C.	2 B
C_{08}	0601108	0.1μF 50V M.C.	2 B
C_{09}	0601108	0.1μF 50V M.C.	2 A
C_{10}	0601108	0.1μF 50V M.C.	1, 2 A
C_{11}	0601108	0.1μF 50V M.C.	
C_{12}	0535109	1μF 50V E.C.	1 B
			1 A
R_{01}	0107104	100kΩ ¼W C.R.	
R_{02}	0107100	10Ω ¼W C.R.	1 A

Parts No.	Stock No.	Description	Position
R_{03}	0107223	22kΩ ¼W C.R.	1 A
$R_{04, 05}$	0107473	47kΩ ¼W C.R.	1 A
$R_{06, 07}$	0107432	3.3kΩ ¼W C.R.	1, 2 A
R_{08}	0107152	1.5kΩ ¼W C.R.	1, 2 A
$R_{09, 10}$	0107224	220kΩ ¼W C.R.	2 B
R_{11}	0107152	1.5kΩ ¼W C.R.	1 B . 2 B
R_{12}	0107152	1.5kΩ ¼W C.R.	2 B
$R_{13, 14}$	0201100	10Ω 1W M.R.	2 A
$R_{15, 16}$	0201101	100Ω 1W M.R.	2 A. 1,2 A
$R_{17, 18}$	0155221	220Ω 5W Ce.C.	1, 2 B
$R_{19, 20}$	0133100	10Ω 3W Ce.C.	2 B
$R_{21, 22}$	0107180	18Ω ¼W C.R.	2 B. 1 A, B
$R_{23, 24}$	0107102	1kΩ ¼W C.R.	2 B
RL_{01}	1150101 1150280	Relay Relay	2 A
$VR_{01, 02}$	1035110	4.7kΩ B	2 B
S_{01}	1102650	Rotary Switch	1 B

6-3. F-2543 Tone Control Circuit Board (Stock No. 7561171)

Conductor Side



Parts List

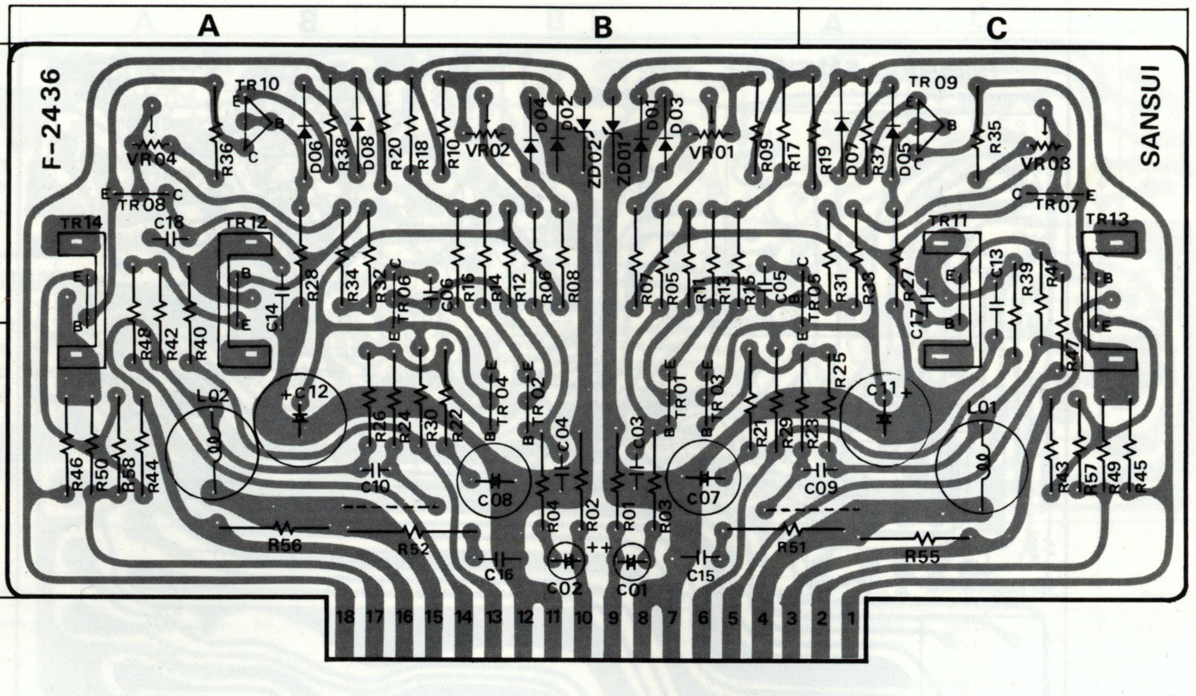
Parts No.	Stock No.	Description	Position
TR_{601}	0306070~2	2SC1313 (F, G, H) Transistor	
IC_{601}	0360190	BA312 IC	2 A

Parts No.	Stock No.	Description	Position
$C_{01, 02}$	0620471	470pF 50V P.C.	1 A
$C_{03, 04}$	0600277	0.027μF 50V M.C.	1 A
C_{601}	0600687	0.068μF 50V M.C.	2 B

Parts No.	Stock No.	Description	Position
C_{602}	0657330	33pF 50V C.C.	2 B
C_{603}	0519105	2.2μF 50V E.C.	2 B
C_{604}	0519105	2.2μF 50V E.C.	2 B
C_{605}	0657330	33pF 50V C.C.	2 A
C_{606}	0510470	47μF 6.3V E.C.	2 A
C_{607}	0519101	1μF 50V E.C.	2 A
C_{608}	0657331	330pF 50V C.C.	2 A
C_{609}	0515101	100μF 50V E.C.	2 A
C_{610}	0510471	470μF 6.3V E.C.	1, 2 B
$C_{611, 12}$	0519106	4.7μF 50V E.C.	2 A
$R_{01, 02}$	0107183	18kΩ ¼W C.R.	1 A
$R_{03, 04}$	0107824	820kΩ ¼W C.R.	1, 2A. 1A
R_{601}	0107563	56kΩ ¼W C.R.	2 B
R_{602}	0106222	2.2kΩ ¼W C.R.	2 B
R_{603}	0107564	560kΩ ¼W C.R.	2 B
R_{604}	0107563	56kΩ ¼W C.R.	2 B
R_{605}	0107333	33kΩ ¼W C.R.	2 B
R_{606}	0107561	560Ω ¼W C.R.	2 B
R_{607}	0107222	2.2kΩ ¼W C.R.	2 B
R_{608}	0107104	100kΩ ¼W C.R.	2 A
R_{609}	0107154	150kΩ ¼W C.R.	2 A
R_{610}	0107223	22kΩ ¼W C.R.	2 A
R_{611}	0107224	220kΩ ¼W C.R.	2 A
R_{612}	0107271	270Ω ¼W C.R.	2 A
R_{613}	0107221	220Ω ¼W C.R.	2 B
R_{614}	0107181	180Ω ¼W C.R.	2 B
R_{615}	0107391	390Ω ¼W C.R.	2 A
VR_{01}	1060320, 1	250kΩ BX2	1, 2 A
S_{01}	1171120	Lever Switch	1 B

6-4. F-2436 Driver Circuit Board (Stock No. 7571201)

Conductor Side



Parts List

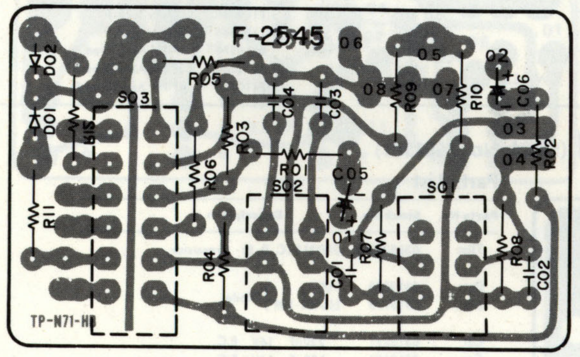
Parts No.	Stock No.	Description		Position
$TR_{01, 02}$	0306271	2SC1708 (G)	Transistor	2 B
$TR_{03, 04}$	0306271	2SC1708 (G)	Transistor	2 B
$TR_{05, 06}$	0300700, 1 0300801, 2	2SA818 (O, Y) 2SA849 (B, V)	Transistor	1,2C.1,2A
$TR_{07, 08}$	0305871, 2	2SC984 (B, C)	Transistor	1 C . 1 A
$TR_{09, 10}$	0306260, 1 0306411, 2	2SC1628 (O, Y) 2SC1720 (B, V)	Transistor	1 C . 1 A
$TR_{11, 12}$	0308531, 2	2SD381 (2) (M, L)	Transistor	1,2C.1,2A
$TR_{13, 14}$	0303371, 2	2SB536 (2) (M, L)	Transistor	1,2C.1,2A
$D_{01, 02}$	0311160 0311180	1S2473D 1S1588	Diode	1 B
$D_{03, 04}$	0311160 0311180	1S2473D 1S1588	Diode	1 B
$D_{05, 06}$	0340120	VD1212	Varistor	1 C . 1 A
$ZD_{01, 02}$	0315850 0315860 0315870	EQA01-09 EQA01-09R EQA01-09S	Zener diode	1 B
$C_{01, 02}$	0519103	0.47μF 50V E.C.		2 B

Parts No.	Stock No.	Description	Position
$C_{03, 04}$	0657101	100pF 50V C.C.	2 B
$C_{05, 06}$	0657150	15pF 50V C.C.	1 B
$C_{07, 08}$	0530101	100μF 6.3V E.C.	2 B
$C_{11, 12}$	0519903	100μF 80V E.C.	2 C . 2 A
$C_{13, 14}$	0651333	33000pF 50V C.C.	1,2C.1,2A
$C_{15, 16}$	0601108	0.1μF 50V M.C.	2 B
$C_{17, 18}$	0657101	100pF 50V C.C.	1 C . 1 A
$R_{01, 02}$	0107124	120kΩ ¼W C.R.	2 B
$R_{03, 04}$	0107103	10kΩ ¼W C.R.	2 B
$R_{05, 06}$	0107124	120kΩ ¼W C.R.	1 B
$R_{07, 08}$	0107683	68kΩ ¼W C.R.	1 B
$R_{09, 10}$	0107223	22kΩ ¼W C.R.	1 B
$R_{11, 12}$	0107102	1kΩ ¼W C.R.	1 B
$R_{13, 14}$	0107220	22Ω ¼W C.R.	1 B
$R_{15, 16}$	0107220	22Ω ¼W C.R.	1 B
$R_{17, 18}$	0107332	3.3kΩ ¼W C.R.	1 B
$R_{19, 20}$	0201822	8.2kΩ 1W C.R.	1 C . 1 A
$R_{21, 22}$	0107182	1.8kΩ ¼W C.R.	2 B
$R_{23, 24}$	0107274	270kΩ ¼W C.R.	2 D . 2 A

Parts No.	Stock No.	Description	Position
$R_{25, 26}$	0107124	120kΩ ¼W C.R.	2 D . 2 A
$R_{27, 28}$	0107333	33kΩ ¼W C.R.	1 C . 1 A
$R_{29, 30}$	0191391	390Ω ¼W Fuse Resistor	2 B . 2 A
$R_{31, 32}$	0107390	39Ω ¼W C.R.	1 C . 1 A
$R_{33, 34}$	0107332	3.3kΩ ¼W C.R.	1 C . 1 A
$R_{35, 36}$	0107152	1.5kΩ ¼W C.R.	1 C . 1 A
$R_{37, 38}$	0107181	180Ω ¼W C.R.	1 C . 2 A
$R_{39, 40}$	0191100	10Ω ¼W Fuse Resistor	1,2C.1,2A
$R_{41, 42}$	0107151	150Ω ¼W C.R.	1,2C.1,2A
$R_{43, 44}$	0191220	22Ω ¼W Fuse Resistor	2 C . 2 A
$R_{45, 46}$	0107151	150Ω ¼W C.R.	2 C . 2 A
$R_{47, 48}$	0191479	4.7Ω ¼W Fuse Resistor	1,2C.1,2A
$R_{49, 50}$	0191479	4.7Ω ¼W Fuse Resistor	2 C . 2 A
$R_{51, 52}$	0153100	10Ω 3W Ce.R.	2B,C.2A,B
$R_{901, 02}$	0107183	18kΩ ¼W C.R.	
$VR_{01, 02}$	1035350	4.7kΩ(B) DC OV Adjust Volume	1 B
$VR_{03, 04}$	1035310	1kΩ(B) Bias Current Adjust Volume	1 C . 1 A

6-5. F-2545 Filter & Muting Circuit Board (Stock No. 7593091)

Conductor Side

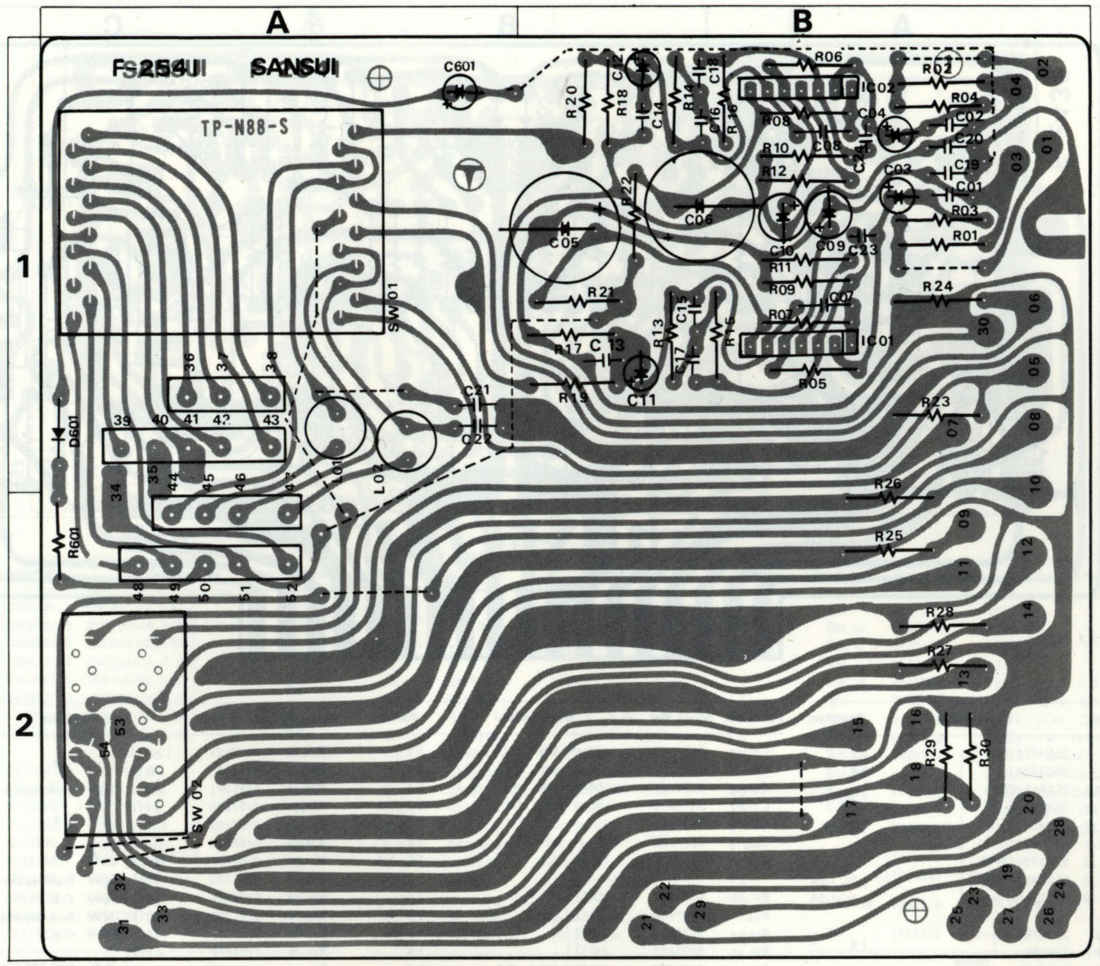


Parts List

Parts No.	Stock No.	Description
$D_{01, 02}$	0311160 0311180	1S2473D 1S1588 Diode
$D_{03, 04}$	0310970 0311060	1N60P 1N60-P Diode
$C_{01, 02}$	0600187	0.018μF 50V M.C.
$C_{03, 04}$	0600187	0.018μF 50V M.C.
$C_{05, 06}$	0519105	2.2μF 50V E.C.
$R_{01, 02}$	0107332	3.3kΩ ¼W C.R.
$R_{03, 04}$	0107273	27kΩ ¼W C.R.
$R_{05, 06}$	0107332	3.3kΩ ¼W C.R.
$R_{07, 08}$	0107824	820kΩ ¼W C.R.
$R_{09, 10}$	0107153	15kΩ ¼W C.R.
S_{01}	1131170	Push Switch

6-6. F-2541 Equalizer Circuit Board (Stock No. 7550731)

Conductor Side



Parts List

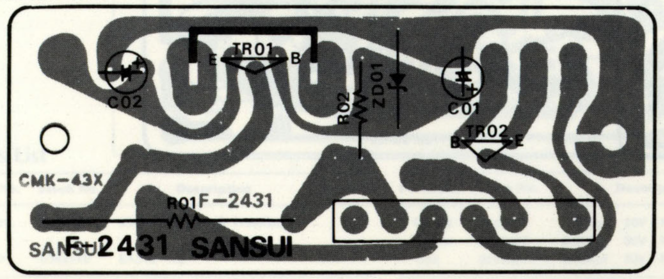
Parts No.	Stock No.	Description	Position
IC01, 02	0360190	BA312 IC	1 B
D601	0311160	1S2473D } Diode	1 A
	0311180	1S1588	
C01, 02	0657470	47pF 50V C.C.	1 B
C03, 04	0519102	3.3μF 50V E.C.	1 B
	0573339	3.3μF 35V T.C.	
C05, 06	0515471	470μF 50V E.C.	1 B
C07, 08	0657470	47pF 50V C.C.	1 B
C09, 10	0510470	47μF 6.3V E.C.	1 B
C11, 12	0519101	1μF 50V E.C.	1 B
	0573109	1μF 35V T.C.	
C13, 14	0657331	330pF 50V C.C.	1 B
C15, 16	0600276	0.0027μF 50V M.C.	1 B
C17, 18	0600107	0.01μF 50V M.C.	1 B

Parts No.	Stock No.	Description	Position
C19, 20	0657473	47000pF 50V C.C.	1 B
C21, 22	0600826	0.0082μF 50V M.C.	1 A
C23, 24	0657220	22pF 50V C.C.	1 B
C601	0515109	1μF 50V E.C.	1 A
C901	0515109	1μF 50V E.C.	
	0657473	47000pF 50V C.C.	
R01, 02	0107563	56kΩ	1 B
R03, 04	0107472	4.7kΩ	1 B
R05, 06	0107823	82kΩ	1 B
R07, 08	0107394	390kΩ } ¼W C.R.	1 B
R09, 10	0107821	820Ω	1 B
R11, 12	0107330	33Ω	1 B
R13, 14	0107273	27kΩ	1 B
R15, 16	0107334	330kΩ } ¼W C.R.	1 B
R17, 18	0107224	220kΩ	1 B

Parts No.	Stock No.	Description	Posision
R19, 20	0107221	220Ω } ¼W C.R.	1 B
R21, 22	0107681	680Ω	1 B
R23, 24	0107224	220kΩ	1 B
R25, 26	0107224	220kΩ	2 B
R27, 28	0107224	220kΩ } ¼W C.R.	2 B
R29, 30	0107224	220kΩ	2 B
R601	0107223	22kΩ	2 B
L01, 02	4900090	Inductor	1 A
S01	1103550	Rotary Switch	
S02	1102660	Rotary Switch	
	2410570	5P Pin Assy Type D	
	2410580	3P Pin Assy Type D	
	2410590	4P Pin Assy Type D	

6-7. F-2431 Power Supply Circuit Board (Stock No. 7501301)

Conductor Side

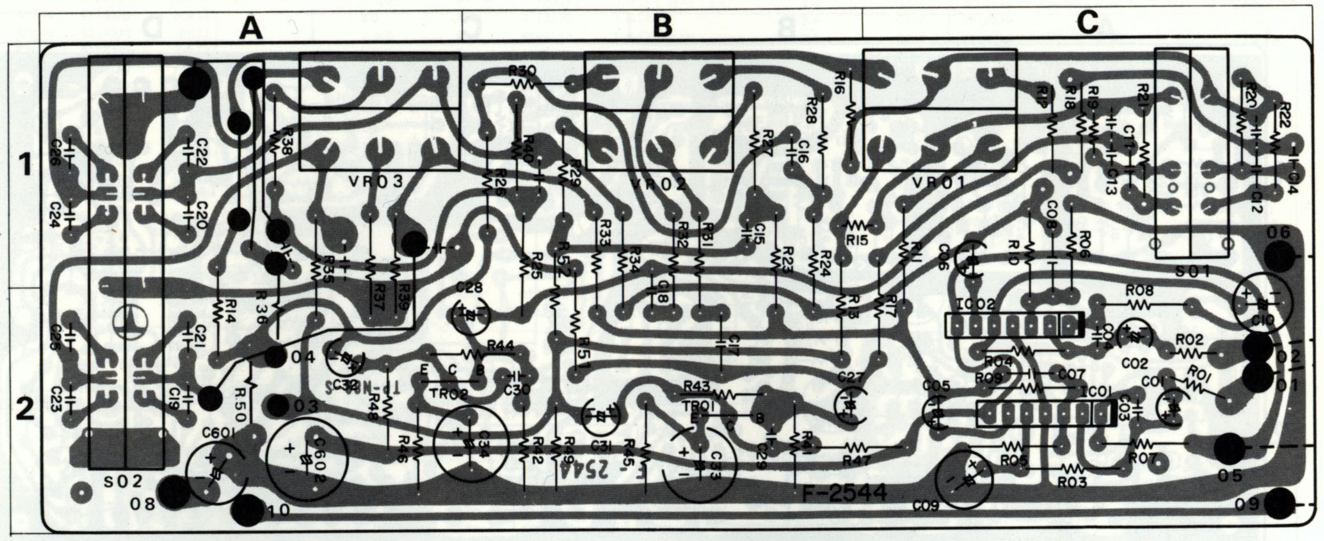


Parts List

Parts No.	Stock No.	Description
TR01	0308390~2	2SD313 (C, D, E) Transistor
D901	0310340	10D1 } Diode
ZD01	0315970	EQA01-13R
C01	0512221	220μF 16V E.C.
C02	0512101	100μF 16V E.C.
C901	0511471	470μF 10V E.C.
R01	0183391	390Ω 3W Ce.R.
R02	0107472	4.7kΩ ¼W C.R.
R03	0183391	390Ω 3W Ce.R.

6-8. F-2544 Tone Control Circuit Board (Stock No. 7561191 MODEL Ⓐ) (Stock No. 7561181 MODEL Ⓑ)

Conductor Side



Parts List

Parts No.	Stock No.	Description	Posit'on
TR01, 02	0306070~2	2SC1313 (F, G, H) Transistor	2 B . 1A,B
IC01, 02	0360190	BA312 IC	2 C
C01, 02	0519101	1μF 50V E.C.	2 C
	0573109	1.0μF 35V T.C.	
C03, 04	0657330	33pF 50V C.C.	2 C
C05, 06	0519001	10μF 25V E.C.	1 C
C07, 08	0657101	100pF 50V C.C.	1 C
C09, 10	0510470	47μF 6.3V E.C.	1, 2 C
C13, 14	0600186	0.0018μF	1 C
C15, 16	0600336	0.0033μF	1 B
C17, 18	0600476	0.0047μF } 50V M.C.	1, 2 B
C19, 20	0600337	0.033μF	1 A
C23, 24	0600337	0.033μF	1 A
C27, 28	0519105	2.2μF 50V E.C.	2 A , B
	0573229	2.2μF 35V T.C.	
C29, 30	0657330	33pF 50V C.C.	2 B
C31, 32	0519001	10μF 25V E.C.	2 A
C33, 34	0510221	220μF 6.3V E.C.	2 A , B
C601	0510471	470μF 6.3V E.C.	2 A
C602	0514221	220μF 35V E.C.	2 A

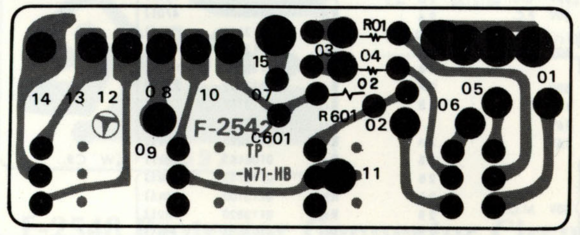
Parts No.	Stock No.	Description	Position
R01, 02	0106222	2.2kΩ	2 C
R03, 04	0107154	150kΩ	2 C
R05, 06	0107102	1kΩ	2 C . 1 C
R07, 08	0107474	470kΩ	1 C . 1,2C
R11, 12	0107562	5.6kΩ	1,2B.1, 2A
R13, 14	0107562	5.6kΩ	1 B , C
R15	0106274	270kΩ	1 B
R16	0107274	270kΩ	1 C
R17, 18	0107222	2.2kΩ	1,2 C.1 C
R23, 24	0107682	6.8kΩ	1, 2 B
R25, 26	0107682	6.8kΩ	1 B
R27, 28	0107562	5.6kΩ } ¼W C.R.	1 B
R29, 30	0107562	5.6kΩ	1 B
R31, 32	0107223	22kΩ	1, 2 B
R33, 34	0107153	15kΩ	1, 2 B
R35, 36	0107153	15kΩ	1, 2 A
R37, 38	0107222	2.2kΩ	1, 2A. 1A
R39, 40	0107224	220kΩ	1, 2A. 1 B
R41, 42	0107124	120kΩ	2 B
R43, 44	0107474	470kΩ	2 B . 2A,B
R45, 46	0107331	330Ω	2 B . 2 A
R47, 48	0107562	5.6kΩ	2B, C. 2A

Parts No.	Stock No.	Description	Position
R49, 50	0107224	220kΩ } ¼W C.R.	2 B . 2 A
R51, 52	0107273	27kΩ	1, 2 B
VR01	1010930, 1	100kΩ B	1 C
VR02	1010930, 1	100kΩ B	1 B
VR03	1010930, 1	100kΩ B	1 A
***MODEL Ⓐ Only**			
C11, 12	0600106	0.001μF 50V M.C.	1 C
C21, 22	0600127	0.012μF 50V M.C.	2 A . 1 A
C25, 26	0600127	0.012μF 50V M.C.	2 A . 1 A
R09, 10	0107123	12kΩ ¼W C.R.	2 C . 1, 2C
R19	0106824	820kΩ ¼W C.R.	1 C
R20	0107824	820kΩ ¼W C.R.	1 C
R21, 22	0107824	820kΩ ¼W C.R.	1 C
S01	1171240	Lever Switch	1 C
S02	1171220	Lever Switch	1, 2 A
***MODEL Ⓑ Only**			
R9, 10	0107103	10kΩ ¼W C.R.	2C. 1, 2 C

Note: In parts list above, there are two model numbers as model Ⓐ and Ⓑ.
Regarding name of model Ⓐ, Ⓑ, please refer to "Notes" indicated on page 1.

6-9. F-2542 Accessary Switch Circuit Board (Stock No. 7593071)

Conductor Side

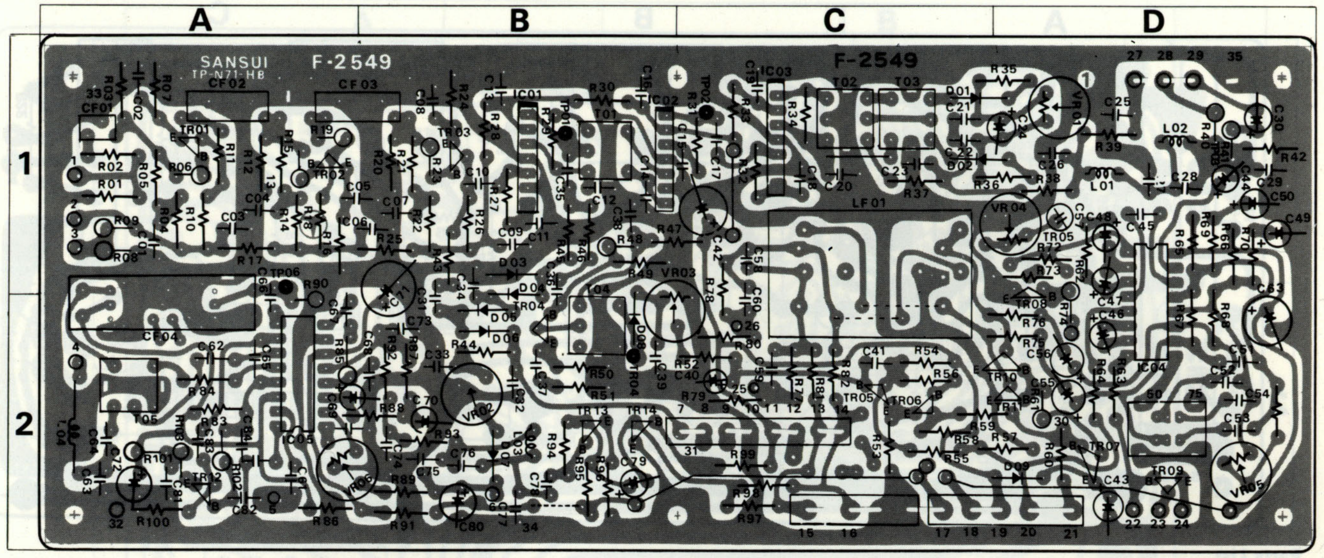


Parts List

Parts No.	Stock No.	Description
C601	0512330	33μF 16V E.C.
R01, 02	0107822	8.2kΩ
R601	0107102	1kΩ } ¼W C.R.
R901	0107681	680Ω
S01	1131160	Push Switch
S02	1171120	Lever Switch
	2410700	6P Pin Assy Type F

6-10. F-2549 FM, AM Tuner Circuit Board (Stock No. 7593171)

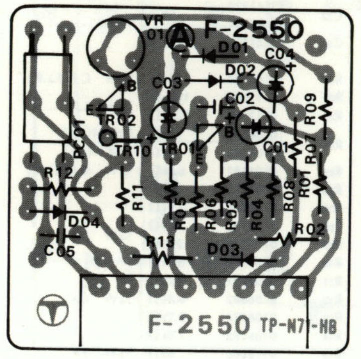
Conductor Side



Parts List

Parts No.	Stock No.	Description		Position
TR01	0306113	2SC738 (D)		1 A
TR02	0306113	2SC738 (D)		1 A
TR03	0306112	2SC738 (C)		1 B
TR04	0306112, 3	2SC738 (C, D)		2 B
TR05	0305731, 2	2SC711 (E, F)		2 C
TR06	0305731, 2	2SC711 (E, F)		2 C
TR07	0300281, 2	2SA628 (D, E)		2 D
TR08	0305731	2SC711 (E)	Transistor	1, 2 D
TR09	0300221	2SA562 (Y)		2 D
TR10, 11	0305371 0305641	2SC733 (Y) 2SC735 (Y)		2 D
TR12	0300281	2SA628 (D)		2 A
TR13	0306091	2SC1312R (G)		2 B
TR14	0305371	2SC733 (Y)		2 B
IC01	0360120	μPC555H		1 B
IC02	0360120	μPC555H		1 B
IC03	0360120	μPC555H	IC	1 C
IC04	0360320	HA1196		1, 2 D
IC05	0360150	HA-1151		2 A
D01	0311060	1N60-P		2 C, B
D02	0311060	1N60-P		2 C, B
D03	0310330, 1	1N60		1 B
D04	0310330, 1	1N60		1, 2 B
D05	0310330, 1	1N60		2 B
D06	0310330, 1	1N60		2 B
D07	0310330, 1	1N60		2 B
D08	0310330, 1	1N60	Diode	2 B
D09	0311160 0311180	1S2473D 1S1583		2 B
D10	0311160 0311180	1S2473D 1S1588		
D11	0311160 0311180	1S2473D 1S1588		
C01	0657223	22000pF		1 A
C02	0657223	22000pF		1 A
C03	0657223	22000pF		1 A
C04	0657223	22000pF		1 A
C05	0657223	22000pF		1 A, B
C06	0657223	22000pF		1 A, B
C07	0657223	22000pF		1 B
C08	0657223	22000pF		1 B
C09	0657223	22000pF		1 B
C10	0657102	1000pF		1 B
C11	0657223	22000pF		1 B
C12	0657223	22000pF	50V C.C.	1 B
C13	0657223	22000pF		1 B
C14	0657223	22000pF		1 B
C15	0657223	22000pF		1 C
C16	0657223	22000pF		1 B
C17	0657102	1000pF		1 C
C18	0657223	22000pF		1 C
C19	0657223	22000pF		1 C
C20	0657223	22000pF		1 C
C21	0657151	150pF		1 C
C22	0657151	150pF		1 C
C23	0657151	150pF		1 C
C24	0512100	10μF	16V E.C.	1 D
C25	0657223	22000pF	50V C.C.	1 D
C26	0620181	180pF	50V P.C.	1 D
C27	0620331	330pF		1 D
C28	0620101	100pF	50V P.C.	1 D
C29	0620151	150pF		1 D
C31	0657221	220pF		1, 2 B
C32	0657221	220pF		2 B
C33	0657223	22000pF		2 B
C34	0657221	220pF		1, 2 B
C35	0657102	1000pF	50V C.C.	1 B
C36	0657102	1000pF		1, 2 B
C37	0657223	22000pF		2 B
C38	0657223	22000pF		1 B
C39	0657101	100pF		2 B
C40	0519101	1μF	50V E.C.	2 C
C41	0657221	220pF	50V C.C.	2 C
C42	0512470	47μF	16V E.C.	1 C
C44	0573688	0.68μF	35V T.C.	1 D
C45	0600477	0.04μF	50V M.C.	1 D
C46	0573228	0.22μF	35V T.C.	2 D
C47	0519104	1.5μF	50V E.C.	1 D
C48	0519102	3.3μF	50V E.C.	1 D
C49, 50	0512100	10μF	16V E.C.	1 D
C51, 52	0600126	0.0012μF	50V M.C.	2 D
C53, 54	0620511	510pF	50V P.C.	2 D
C55, 56	0519101	1μF	50V E.C.	2 D
C57	0629005	360pF	50V P.C.	1 D
C59, 60	0600186	0.0018μF	50V M.C.	1, 2 C
C62	0657103	10000pF	50V C.C.	2 A
C63	0669400	15pF	50V C.C.	2 D
C64	0620361	360pF	50V P.C.	2 A
C66	0657103	10000pF		1, 2 A
C67	0657102	1000pF	50V C.C.	2 A
C68	0657102	1000pF		2 B
C69	0515339	3.3μF	50V	2 A, B
C70	0512100	10μF	16V	2 B
C71	0512101	100μF	16V	1, 2 B
C72	0512470	47μF	16V	2 A
C73	0600337	0.033μF		2 B
C74	0600337	0.033μF		2 B
C75	0600107	0.01μF		2 B
C76	0600107	0.01μF	50V M.C.	2 B
C77	0600227	0.022μF		2 B
C78	0600157	0.015μF		2 B
C79	0519101	1μF	50V E.C.	2 B
C80	0510470	47μF	6.3V E.C.	2 B
C81	0657223	22000pF		2 A
C82	0657102	1000pF	50V C.C.	2 A
C83	0657331	330pF		2 A
C84	0657223	22000pF		2 A
C85	0512470	47μF	16V E.C.	
R01	0113102	1.0kΩ		1 A
R02	0113101	100Ω		1 A
R03	0113332	3.3kΩ	¼W S.R.	1 A
R04	0113102	1.0kΩ		1 A
R05	0113471	470Ω		1 A
R06	0106151	150Ω	¼W C.R.	1 A
R07	0113122	1.2kΩ	¼W S.R.	1 A
R08	0106333	33kΩ	¼W C.R.	1 A
R09	0106104	100kΩ		1 A
R10	0113331	330Ω		1 A
R11	0113101	100Ω		1 A
R12	0113332	3.3kΩ	¼W S.R.	1 A
R13	0113471	470Ω		
R14	0113102	1.0kΩ		1 A
R15	0106151	150Ω	¼W C.R.	1 A
R16	0113122	1.2kΩ		1 A
R17	0113479	4.7Ω	¼W S.R.	1 A
R18	0113331	300Ω		1 A
R19	0106101	100Ω	¼W C.R.	1 A
R20	0113222	2.2kΩ		1 B
R21	0113471	470Ω	¼W S.R.	1 B
R22	0113562	5.6kΩ		1 B
R23	0106221	220Ω	¼W C.R.	1 B
R24	0113391	390Ω		1 B
R25	0113476	4.7Ω		1 B
R26	0113102	1.0kΩ		1 B
R27	0113102	1.0kΩ		1 B
R28	0113479	4.7Ω		1 B
R29	0113103	10kΩ		1 B
R30	0113479	4.7Ω		1 B
R31	0113102	1.0kΩ		1 C
R32	0113102	1.0kΩ		1 C
R33	0113479	4.7Ω		1 C
R34	0113682	6.8kΩ		1 C
R35	0113102	1.0kΩ	¼W S.R.	1 C D
R36	0113102	1.0kΩ		1 C D
R37	0113101	100Ω		1 C
R38	0113471	470Ω		1 D
R39	0113153	15kΩ		1 D
R42	0113103	10kΩ		1 D
R43	0113102	1.0kΩ		1 B
R44	0113222	2.2kΩ		2 B
R45	0113102	1.0kΩ		1 B
R46	0113332	3.3kΩ		1 B
R47	0113222	2.2kΩ		1 B C
R48	0106183	18kΩ	¼W C.R.	1 B
R49	0113103	10kΩ		1 B
R50	0113102	1.0kΩ		2 B
R51	0113820	82Ω		2 B
R52	0113683	68kΩ		2 C
R53	0113820	82Ω	¼W S.R.	2 C
R54	0113473	47kΩ		2 C
R56	0113104	100kΩ		2 C
R57	0113104	100kΩ		2 C D
R58	0113562	5.6kΩ		2 C
R59	0113333	33kΩ		2 C D
R61	0106472	4.7kΩ	¼W C.R.	2 D
R62	0113102	1.0kΩ		1 D
R63	0113221	220Ω		2 D
R64	0113104	100kΩ		2 D
R65, 66	0113273	27kΩ	¼W S.R.	1 D
R67, 68	0113473	47kΩ		1, 2 D
R69, 70	0113682	6.8kΩ		1 D
R71	0113103	10kΩ		2 D
R72	0107184	180kΩ	¼W C.R.	1 D
R73	0113151	150Ω	¼W S.R.	1 D
R74	0106104	180kΩ	¼W C.R.	1, 2 D
R75, 76	0113332	3.3kΩ		2 D
R77, 78	0113333	33kΩ		1, 2 C
R79, 80	0113223	22kΩ		2 C
R81, 82	0113182	1.8kΩ	¼W S.R.	2 C
R83	0113392	3.9kΩ		2 A
R84	0113100	10Ω		2 A
R85	0106331	330Ω	¼W C.R.	2 A
R86	0113151	150Ω		2 A
R87	0113103	10kΩ	¼W S.R.	2 B
R88	0113272	2.7kΩ		
R89	0113152	1.5kΩ	¼W S.R.	2 B
R90	0106562	5.6kΩ	¼W C.R.	2 A
R91	0113101	100Ω		2 B
R92	0113182	1.8kΩ		2 B
R93	0113102	1.0kΩ	¼W S.R.	2 B
R94	0113224	220kΩ		2 B
R95	0113561	560Ω		2 B
R96	0113221	220Ω		2 B
R97, 98	0113332	3.3kΩ	¼W S.R.	2 C
R100	0113332	3.3kΩ		2 A
R101	0106152	1.5kΩ	¼W	2 A
R102	0106473	47kΩ		2 A
R103	0106390	39Ω		2 A
R104	0106123	12kΩ		
R901	0106473	47kΩ	¼W C.R.	
R902	0106153	15kΩ		2 A
R903	0107273	27kΩ		2 A
L01	4900250			1 D
L02	4900240		Inductor	1 D
L03	4900220			2 B
L04	4290011	Choke Coil		2 A
T01	4235860			1 B
T02	4235750		FM IF Coil	1 C
T03	4235760			1 C
T04	4235940			2 B
T05	4220550	OSC Coil		2 A
CF01	0910150	Ceramic Filter		1 A
CF02	0910330		Low Pass Filter	1 A
CF03	0910330			1 A, B
CF04	0910310	Ceramic Filter		1, 2 A
LF01	0910210	Low Pass Filter		1, 2 C
VR01	1035150	22kΩ B		1 D
VR02	1035170	47kΩ B		2 B
VR03	1035170	47kΩ B		1 B, C
VR04	1034250	4.7kΩ B		1 C, D
VR05	1035210	220kΩ B		2 D
VR06	1035110	4.7kΩ B		2 A, B
S01	1110270	Slide Switch		
	2410570	5P Pin Assy Type D		
	2410590	4P Pin Assy Type D		
	2410740	8P Pin Assy Type A		

6-11. F-2550 Multi-Path Circuit Board (Stock No. 7593181)



Parts List

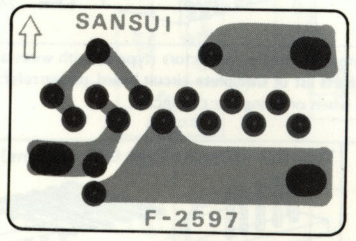
Parts No.	Stock No.	Description	
TR01	0305731, 2	2SC711 (E, F)	Transistor
TR02	0305733	2SC711 (G)	
D01	0310330, 1	1N60	
D02	0310330, 1	1N60	
D03	0310330, 1	1N60	
D04	0310330, 1	1N60	
PC01	0920060	Photo-cell Lamp	
C01	0515109	1μF 50V E.C.	
C02	0657101	100pF 50V C.C.	
C03	0513479	4.7μF 25V E.C.	
C04	0512100	10μF 16V E.C.	
C05	0600107	0.01μF 50V M.C.	
R01	0113473	47kΩ	
R02	0113104	100kΩ	
R03	0113563	56kΩ	
R04	0113103	10kΩ	
R05	0113182	1.8kΩ	¼W S.R.
R06	0113331	330Ω	
R07	0113392	3.9kΩ	
R08	0113223	22kΩ	
R09	0113153	15kΩ	
R10	0113479	4.7Ω	
R11	0113102	1.0kΩ	¼W S.R.
R12	0113561	560Ω	
R13	0113470	47Ω	
VR901	1035190	100kΩ B	
	2420300	8P Connector Assy Type A	

6-12. F-1470 Lamp Circuit Board (Stock No. 7593151)

Parts List

Parts No.	Stock No.	Description
R01	0191180	18Ω ¼W Fuse Resistor
PL01, 04	0420040	7V 320MA

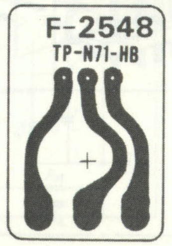
6-13. F-2597 Connector Circuit Board (Stock No. 7593901)



Parts List

Parts No.	Stock No.	Description
C01	0515109	1μF 50V E.C.
R01	0107472	4.7kΩ ¼W C.R.

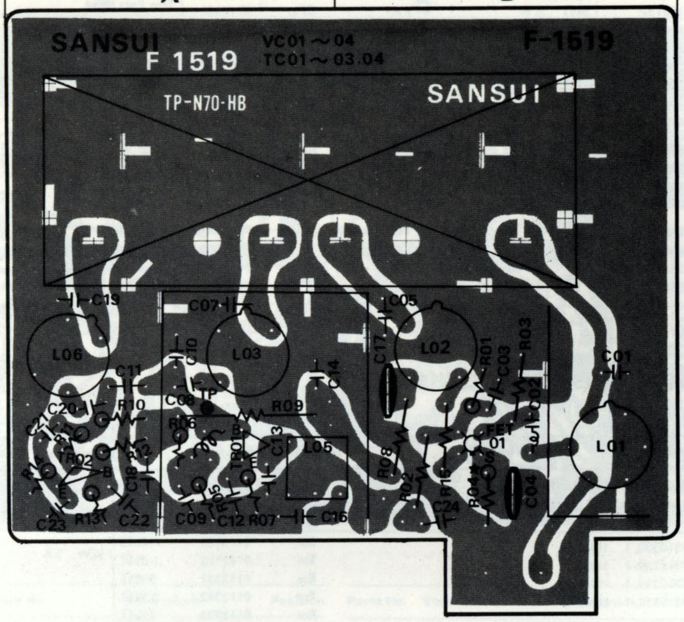
6-14. F-2548 Protector Connector Circuit Board (Stock No. 7593131)



6-15. F-1519 FM Pack (Stock No. 7510650)

Conductor Side

A	B



Parts List

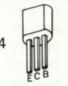
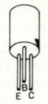
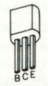
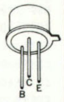
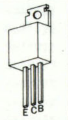
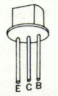
Parts No.	Stock No.	Description	Position
TR01	0305800, 1	2SC1047 (A, B) } Transistor	A
TR02	0305790, 1	2SC930 (C, D) } Transistor	A
FET01	0370131, 2	3SK41 (K, L) FET	B
L01	4200640	Antenna Coil	B
L02	4210330	RF Coil (1)	B
L03	4210220	RF Coil (2)	A

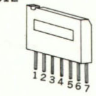
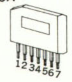
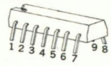
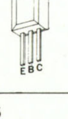
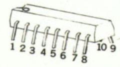
Parts No.	Stock No.	Description	Position
L04	4290110	Choke Coil	A
L05	4235910	IF Coil	A, B
L06	4220430	OSC Coil	A
VC01~04 } TC01~03	1220130	FM, AM Variable Capacitor	A, B / A, B
TC04	1230090	FM OSC Trimmer	A, B

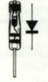
Parts No.	Stock No.	Description	Position
C01	0669342	5.6pF } 50V C.C.	
C02	0657102	1000pF } 50V C.C.	B
C03	0657223	0.022μF } 50V C.C.	B
C04	0659015	2200pF } 50V C.C.	B
C05	0669345	10pF } 50V C.C.	B
C06	0679023	0.39pF 500V Gimmick Capacitor	B
C07	0669345	10pF } 50V C.C.	A
C08	0669210	10pF } 50V C.C.	A
C09	0657102	1000pF } 50V C.C.	A
C10	0661220	22pF } 50V C.C.	A
C11	0669202	2.2pF } 50V C.C.	A
C12	0657223	0.022μF } 50V C.C.	A
C13	0660121	120pF } 50V C.C.	A
C14	0657223	0.022μF } 50V C.C.	A
C16	0660331	330pF } 50V C.C.	A
C17	0659015	2200pF } 50V C.C.	B
C18	0657223	0.022μF } 50V C.C.	A
C19	0669375	15pF } 50V C.C.	A
C20	0657102	1000pF } 50V C.C.	A
C21	0669209	8.2pF } 50V C.C.	A
C22	0657223	0.022μF } 50V C.C.	A
C23	{0661220 / 0669221	22pF } 50V C.C.	A
C24	0657223	0.022μF } 50V C.C.	B
R01	0106105	1MΩ ¼W C.R.(E.L.R.)	B
R02	0113104	100kΩ } ¼W S.R.	B
R03	0113104	100kΩ } ¼W S.R.	B
R04	{0106101 / 0106680	100Ω (3SK41(1)K) / 68Ω (3SK41(1)L) } ¼W C.R.(E.L.R.)	B
R05	0106682	6.8kΩ } ¼W C.R.(E.L.R.)	A
R06	0106123	12kΩ } ¼W C.R.(E.L.R.)	A
R07	0106392	3.9kΩ } ¼W C.R.(E.L.R.)	A
R08	0113121	120Ω } ¼W S.R.	B
R09	0113271	270Ω } ¼W S.R.	A
R10	0106392	3.9kΩ } ¼W C.R.	A
R11	0106121	120Ω } ¼W C.R.	A
R12	0106682	6.8kΩ } ¼W C.R.	A
R13	0106222	2.2kΩ } ¼W C.R.	A
R14	0106182	1.8kΩ } ¼W C.R.	A
R15	0113680	68Ω ¼W S.R.	B
	2260010	Test Pin	

6-16 Figures

Semiconductor

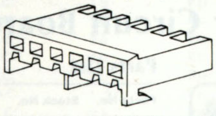
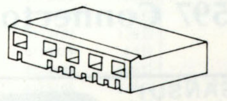
SEMICONDUCTORS		COMPLETE CIRCUIT BOARD
2SA849 2SC945 2SC1364	 E C B	F-2436 F-2547
2SC984	 B E C	F-2436
2SA628 2SC711 2SC738D 2SC1312 2SC1313 2SC1708	 B C E	F-2436 F-2543 F-2544 F-2549 F-2550
2SC1720	 C B E	F-2436
2SB536 2SD313 2SD381	 E C B	F-2431 F-2436
2SA562 2SC733 2SC735	 E C B	F-2549

SEMICONDUCTORS		COMPLETE CIRCUIT BOARD
BA312	 1 2 3 4 5 6 7	F-2541 F-2543 F-2544
μPC555A	 1 2 3 4 5 6 7	F-2431
HA1151	 1 2 3 4 5 6 7 9 8	F-2549
2SA818 2SC1628	 E B C	F-2436
HA1196	 1 2 3 4 5 6 7 8 10 9	F-2549

SEMICONDUCTORS		COMPLETE CIRCUIT BOARD
1N60 1N60P		F-2545 F-2547 F-2549 F-2552
10D1		F-2431 F-2547
VD1212		F-2436
1S2473D 1S1588		F-2436 F-2541 F-2545 F-2549
EQA01-09 EQA01-09R EQA01-09S EQA01-13R		F-2431 F-2436

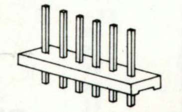
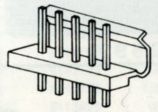
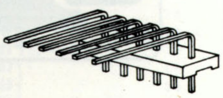
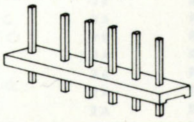
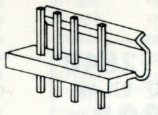
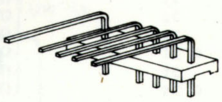
Connector & Pin Ass'y

Connector

Type A (3～10 pins)	Type B (2～6 pins)	Stock No.
		2 Pins 2420250 3 Pins 2420220 4 Pins 2420230 5 Pins 2420210 6 Pins 2420240

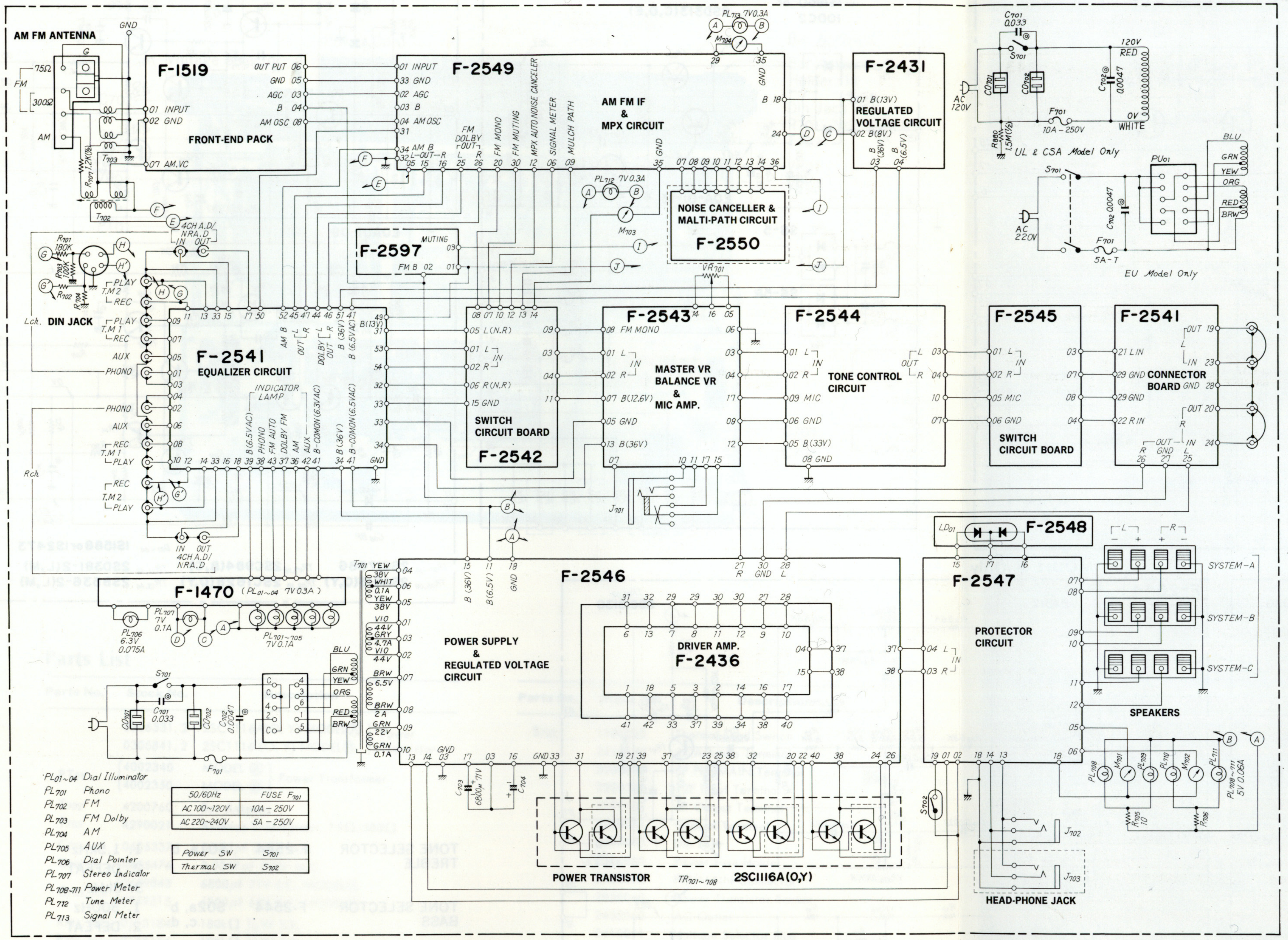
NOTE: Since stock number of famale connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

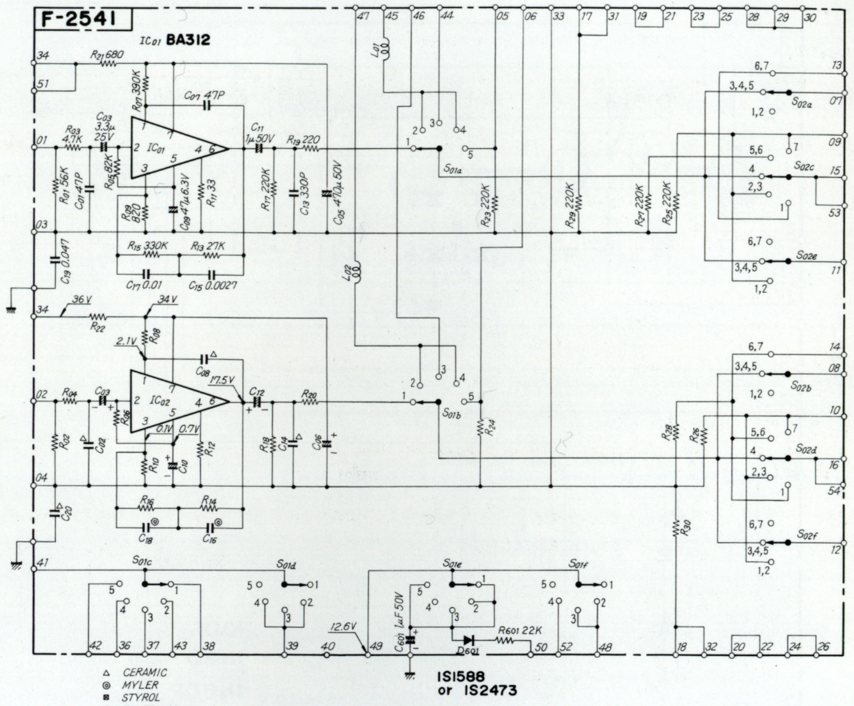
Pin Ass'y

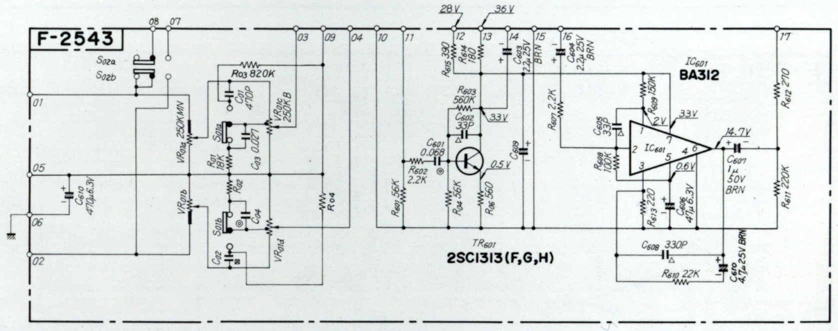
Type A (3～10 pins)	Type B (3～10 pins)	Type C (3～10 pins)
		
Type D (2～6 pins)	**Type E (2～6 pins)**	**Type F (2～6 pins)**
		

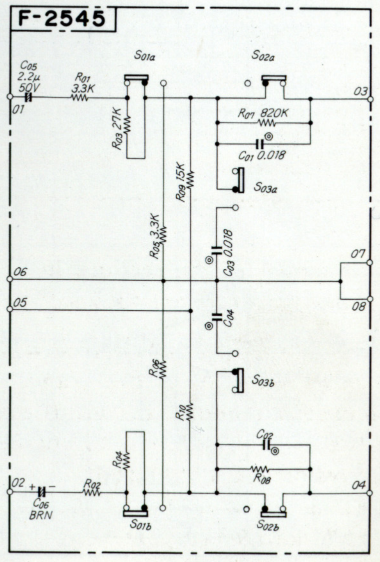
7. SCHEMATIC DIAGRAM

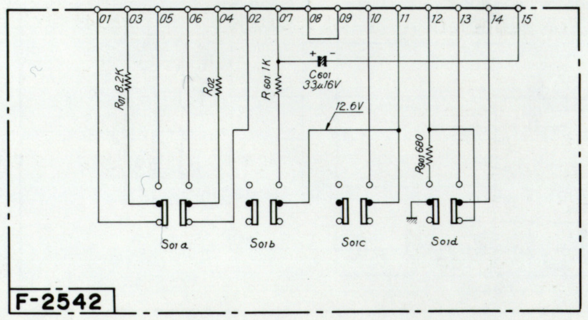
* La présention et les spécifications sont susceptibles d'éter modifiées sans préavis par suites d'améliorations éventuelles.
* Anderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.









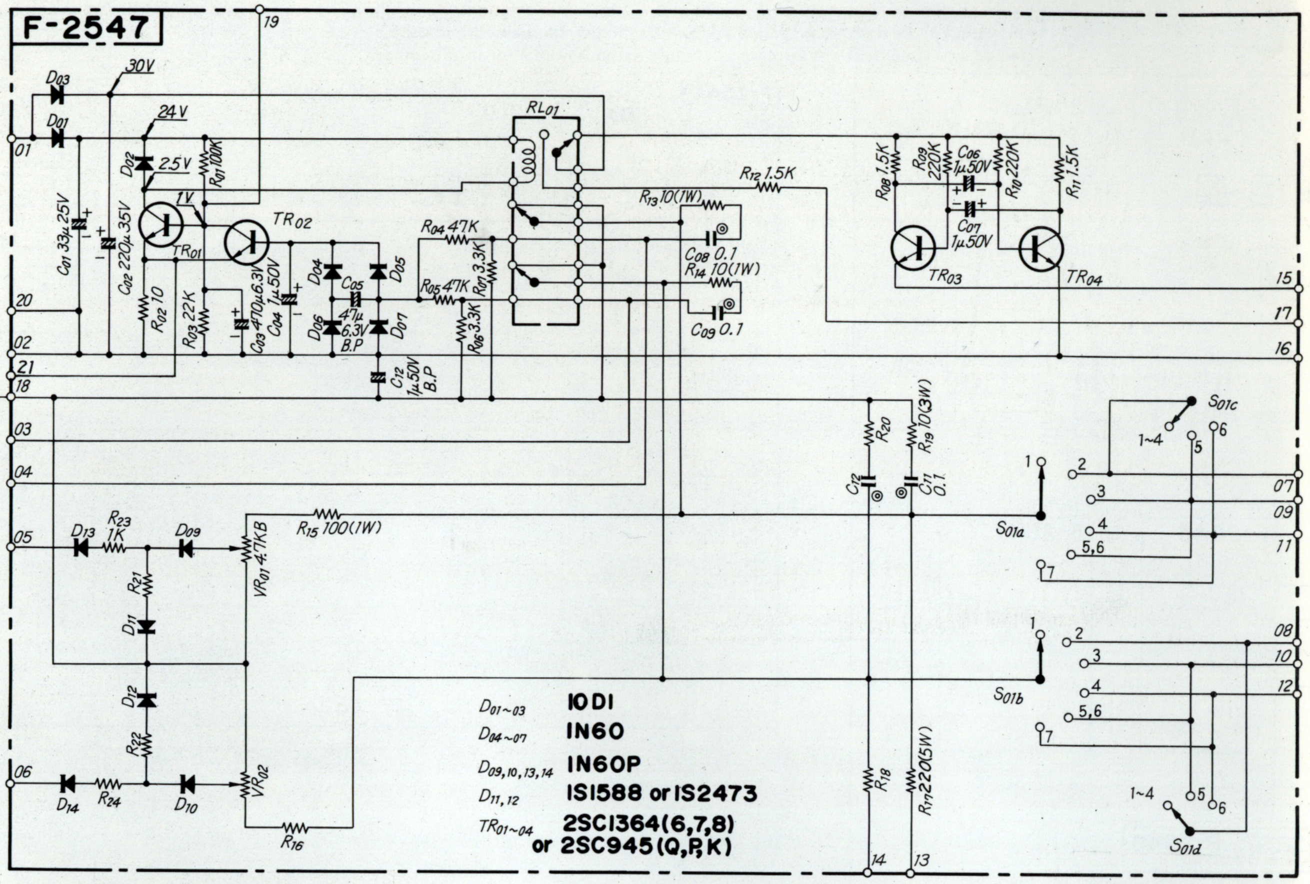


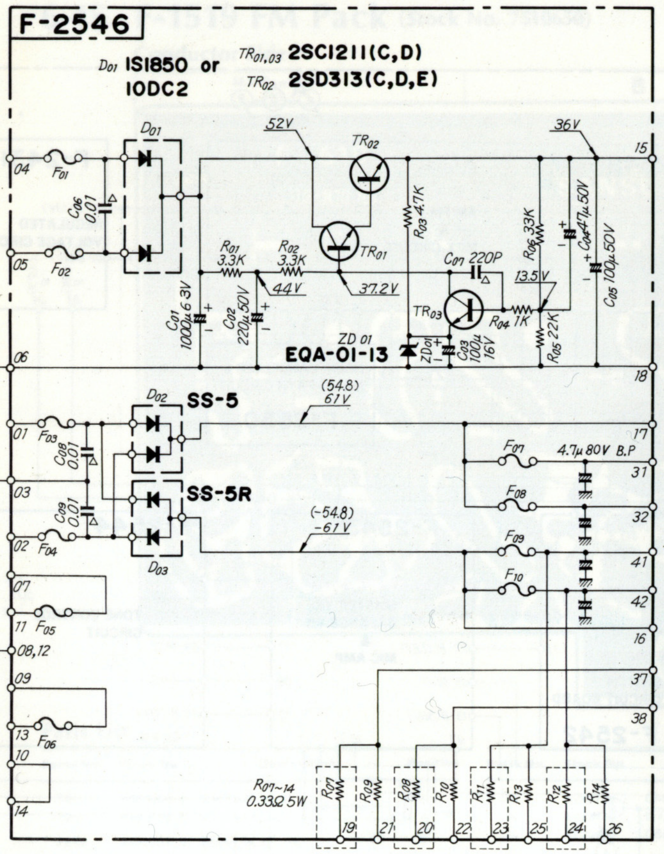
Note: In model Ⓑ, the sections in ⬚ on schematic diagram above are not installed.

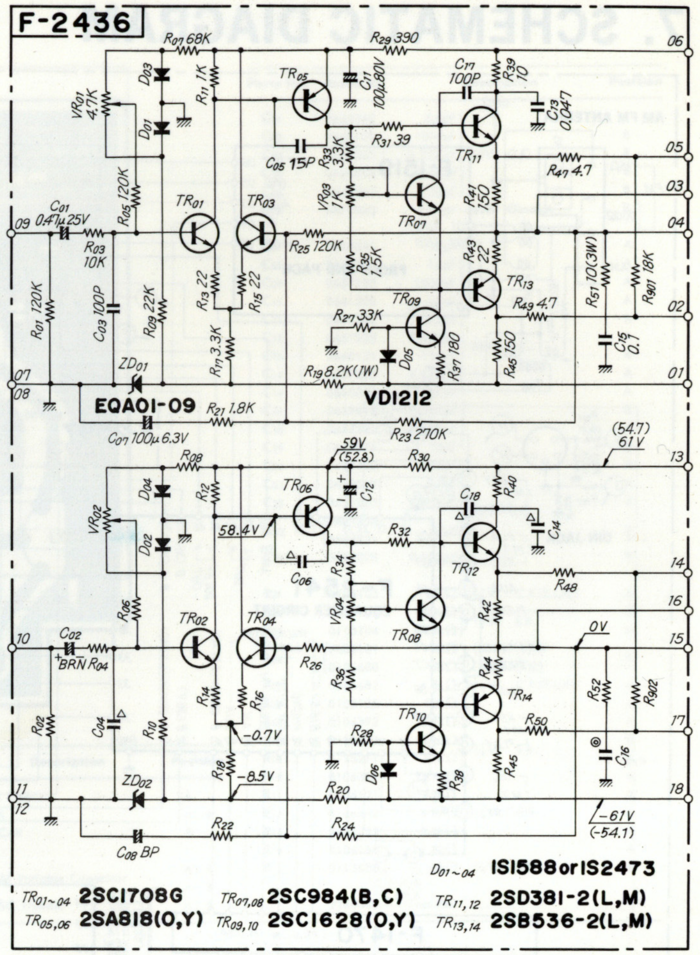
Schematic diagrams in this manual are combined with ones of model Ⓐ and Ⓑ. Therefore, when you use these diagrams, refer to the Notes shown in diagrams on page 18, 19 or 20. Regarding name of model Ⓐ, Ⓑ, please refer to "Notes" indicated on page 1.

SELECTOR	F-2541	S01a~f	1. PHONO 2. FM AUTO 3. DOLBY FM AD 4. AM 5. AUX
TAPE PLAY	F-2541	S02a~f	1. DECK 1 } copy 1-2 2. DECK 2 } 3. DECK 1 4. SOURCE 5. DECK 2 6. DECK 2 } copy 2-1 7. DECK 1 }

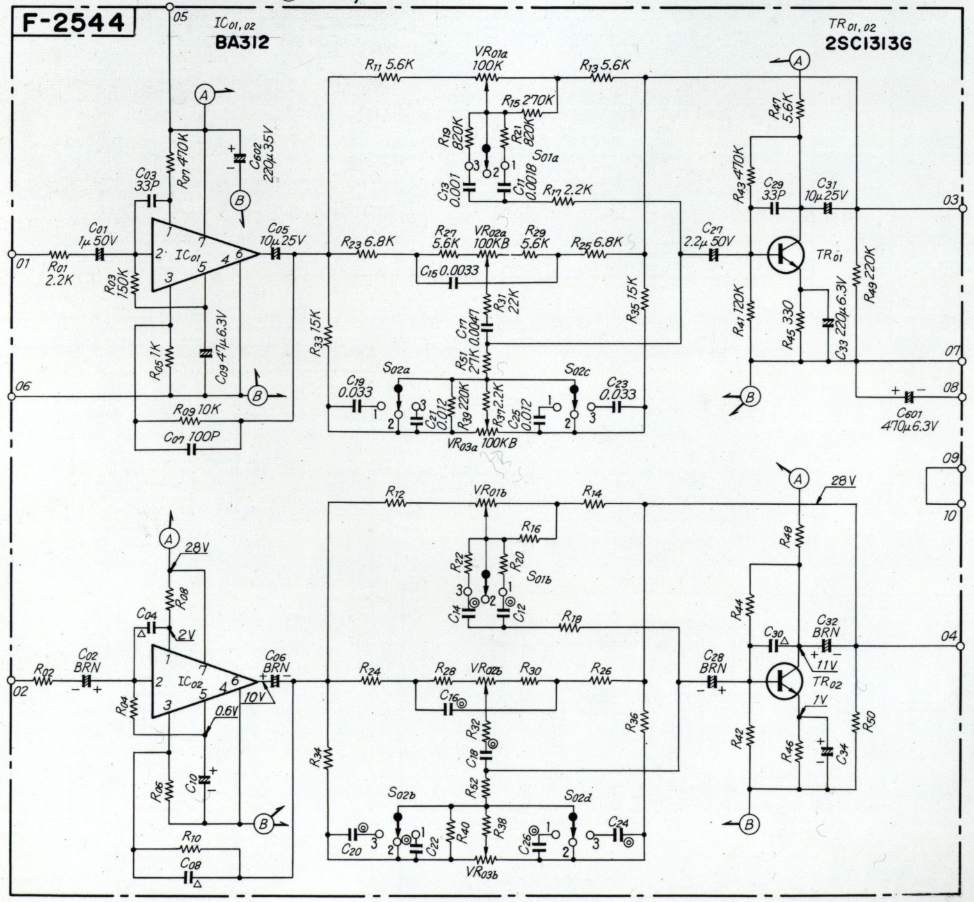
4-CH AD/NR.AD	F-2542	S01a
FM MUTING	F-2542	S01b
MPX NOISE CANCELER	F-2542	S01c
METER SELECTOR	F-2542	S01d
AUDIO MUTING	F-2545	S01a, b
LOW FILTER	F-2545	S02a, b
HIGH FILTER	F-2545	S03a ,b
LOUDNESS	F-2543	S01a, b
MODE	F-2543	S02a, b



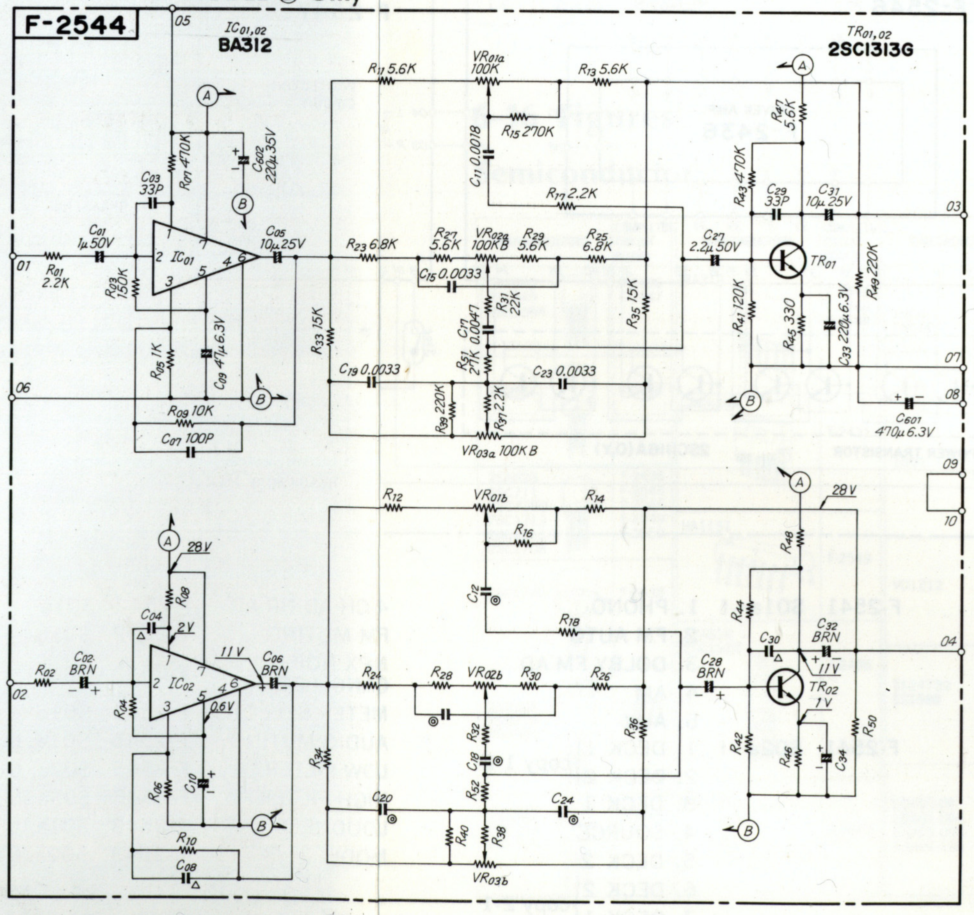




*MODEL Ⓐ Only



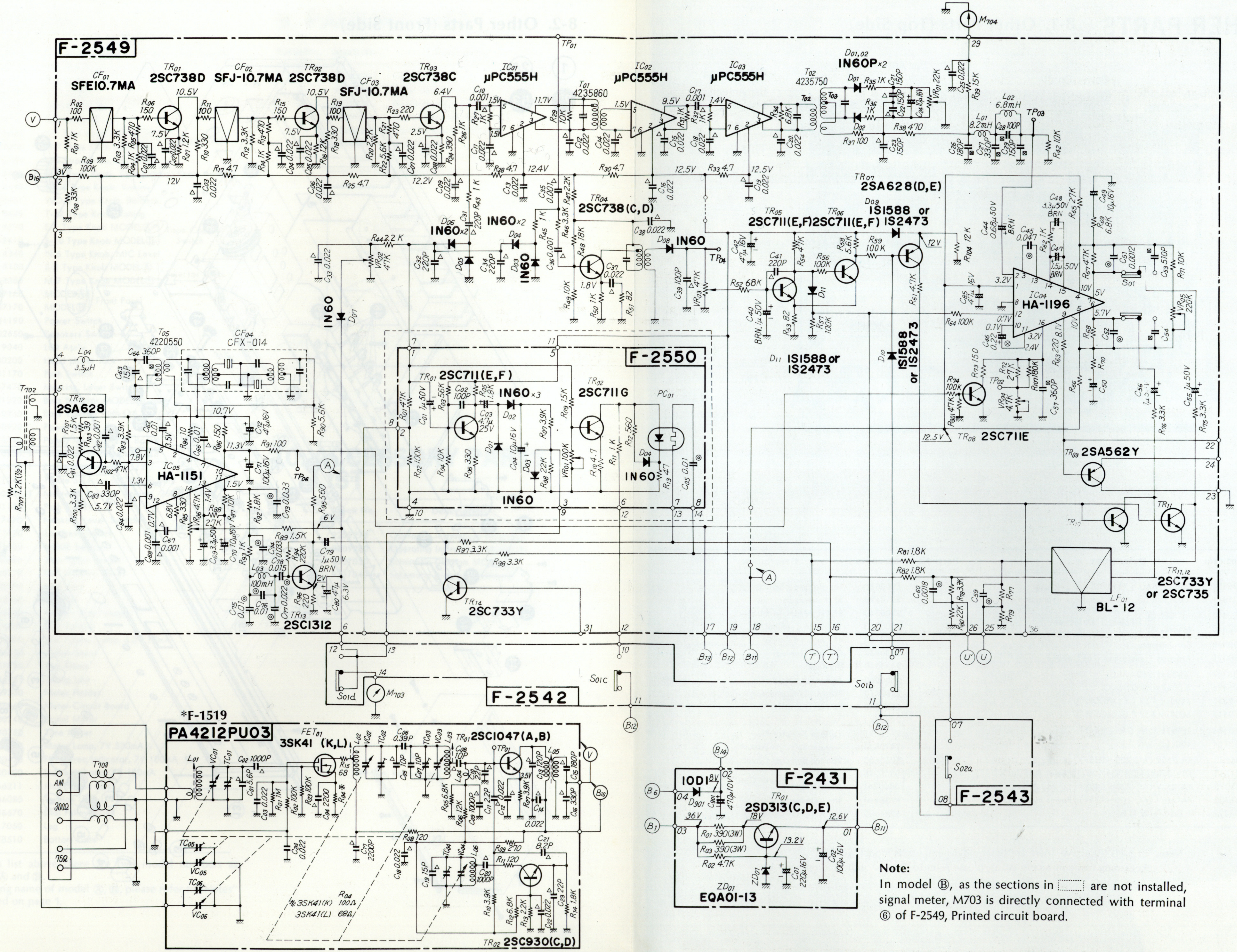
*MODEL Ⓑ Only



TONE SELECTOR TREBLE	F-2544	S01a, b	1. 1.5kHz 2. DEFFAT 3. 3kHz
TONE SELECTOR BASS	F-2544	S02a, b c, d	1. 300Hz 2. DEFEAT 3. 150Hz
SPEAKERS SELECTOR	F-2547	S01a, d	1. OFF 2. A 3. B 4. C 5. A+B 6. A+C

Note:

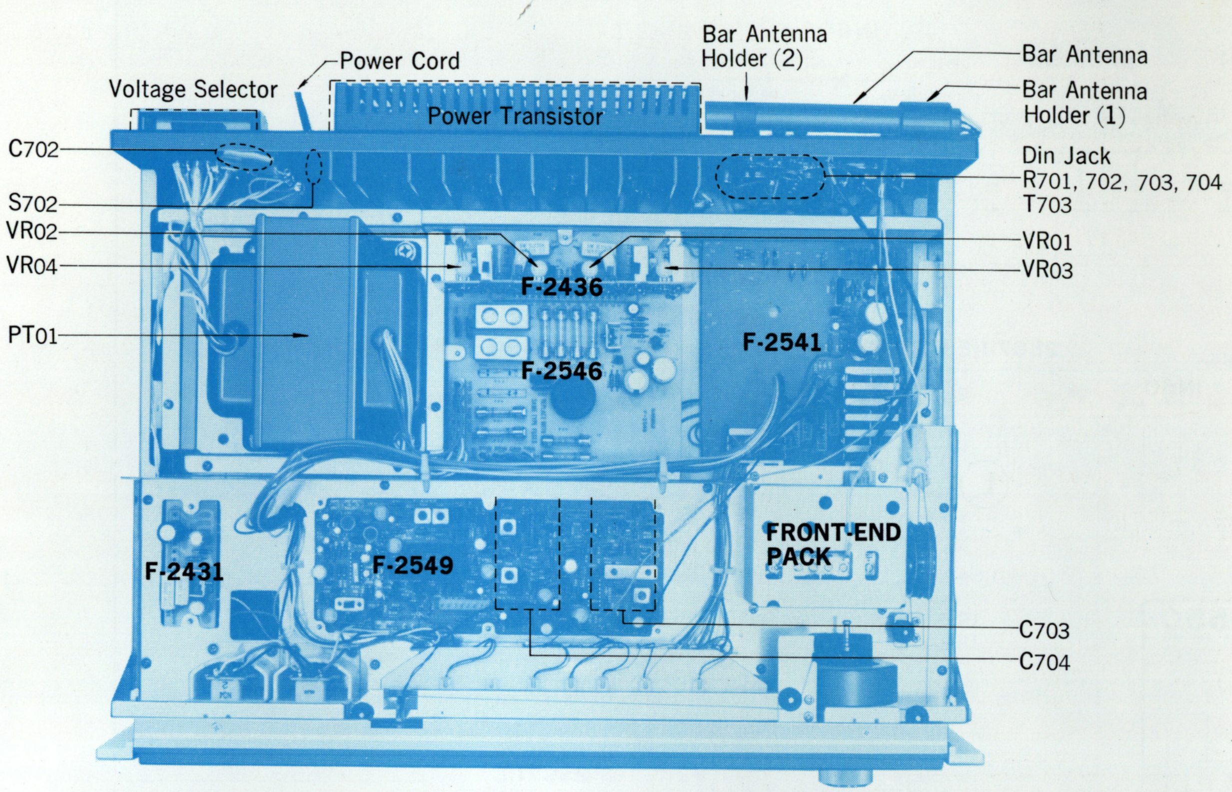
1. In model Ⓑ, the section in ⬚ on schematic diagram above are not installed.
2. Each voltage in parentheses ( ) shows the value of model Ⓑ in volts.



Note:
In model Ⓑ, as the sections in ⬚ are not installed, signal meter, M703 is directly connected with terminal ⑥ of F-2549, Printed circuit board.

8. OTHER PARTS

8-1. Other Parts (Top Side)



Parts List

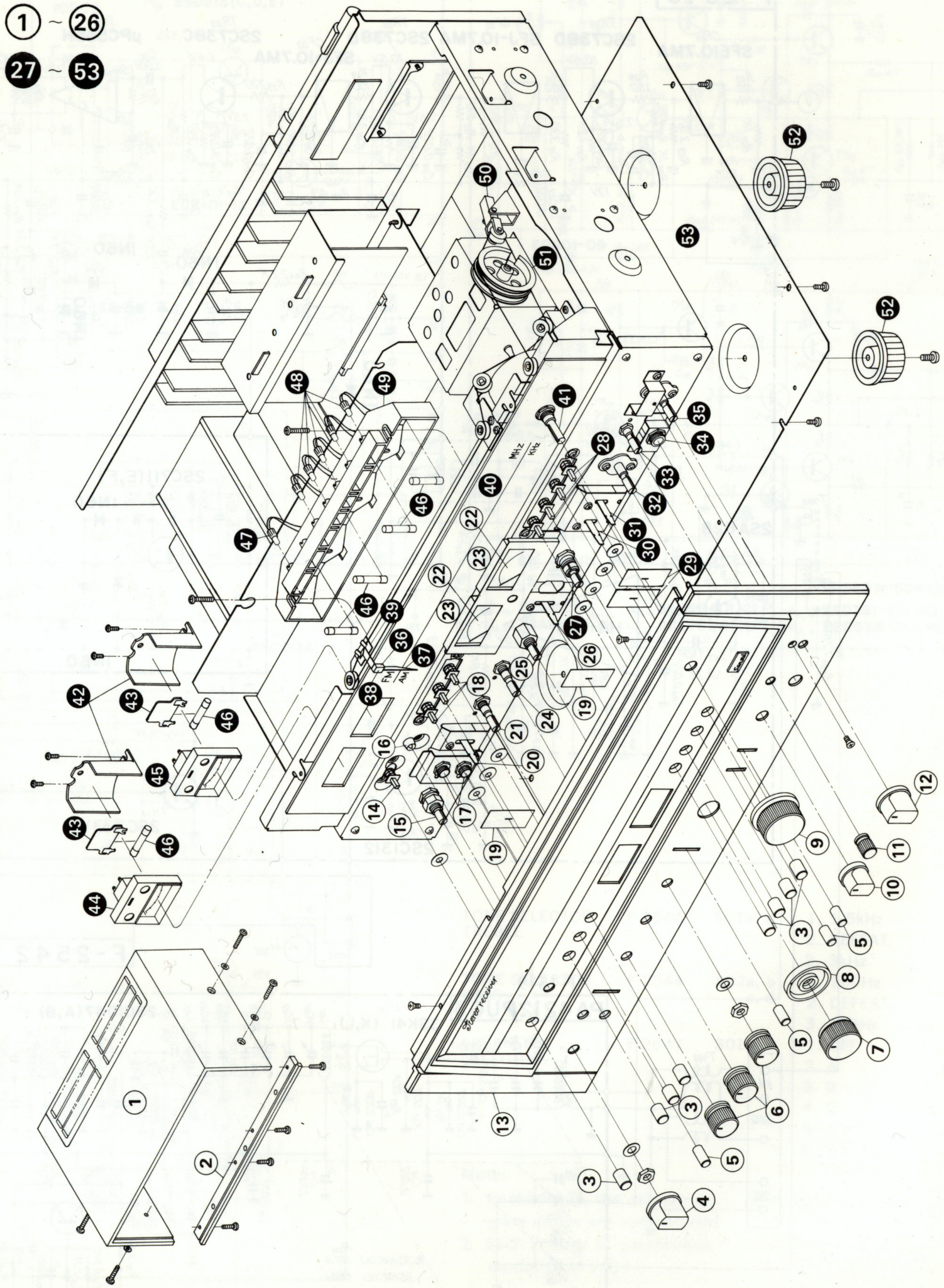
Parts No.	Stock No.	Description
	0306331, 2	2SC1116A(O, Y) MODEL Ⓐ } Power Transistor
	0305841, 2	2SC1116 (O, Y) MODEL Ⓑ } Power Transistor
PT_{01}	4002340	MODEL Ⓐ } Power Transformer
	4002350	MODEL Ⓑ } Power Transformer
T_{702}	4200760	Bar Antenna
T_{703}	4290021	Antenna Transformer, 75Ω/300Ω
C_{701}	0605337	0.033μF 250V M.C.
C_{702}	0605476	0.0047μF 250V M.C.
$C_{703, 704}$	0559843	6800μF 71V E.C. MODEL Ⓐ
	0559515	6800μF 63V E.C. MODEL Ⓑ
$R_{701, 702}$	0113184	180kΩ ¼W S.R.
$R_{703, 704}$	0113104	100kΩ ¼W S.R.
F_{701}	0431280	5A 250V (AC 220~240V) } MODEL Ⓐ Power Fuse
	0431320	10A 250V (AC 100~120V) } MODEL Ⓐ Power Fuse
	0431270	4A 250V (AC 220~240V) } MODEL Ⓑ Power Fuse
	0431300	7A 250V (AC 100~120V) } MODEL Ⓑ Power Fuse
R_{707}	0103122	1.2kΩ ½W C.R.

Parts No.	Stock No.	Description
S_{702}	1900020	Thermal Lead Switch
	2210190	3P Antenna Terminal
	2200340	8P PRE/MAIN Terminal
	2200360	12P Input Terminal
	2290160	4P Output Terminal
	2230051	Ground Terminal
	2430040, 1	Din Jack
	2300060	Power Fuse Holder
	2460010	PRE/MAIN Connector
	2030040	Power Transistor Socket
	2450060	AC Outlet
	2410091	Voltage Selector Plug
	2410830	Voltage Selector Socket
	5268600	Voltage Selector Cover
	3800290	MODEL Ⓐ } Power Cord
	3800261	MODEL Ⓑ } Power Cord
	5286450	Bar Antenna Holder (1)
	5286480	Bar Antenna Holder (2)

Note: In parts list above, there are two model numbers as model Ⓐ and Ⓑ.
Regarding name of model Ⓐ, Ⓑ, please refer to "Notes" indicated on page 1.

8-2. Other Parts (Front Side)

① ~ ㉖
㉗ ~ ㊸



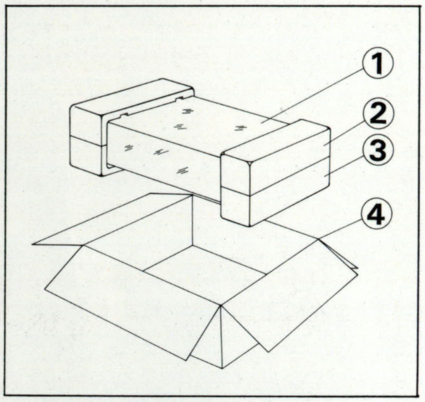
Parts List (Front Side)

Parts No.	Stock No.	Description
1	5726933	MODELⒶ Bonnet
	5726923	MODELⒷ Bonnet
2	5996092	MODELⒶ Panel Sash
	5996102	MODELⒷ Panel Sash
3	5326550	Push Knob (B)
4	5318400	E-2 Type Knob MODELⒶ Speakers Knob
	5318380	M-7 Type Knob MODELⒷ Speakers Knob
5	7106130	C-2 Type Knob, Lever Switch
6	5318410	S-10 Type Knob, Tone Control Knob
7	5318440	WI-6 Type Knob, Volume
8	5318431	WO-8 Type Knob, Balance
9	5318420	T-12 Type Knob, Tuning
10	5318390	E-1 Type Knob MODELⒶ Tape Copy Switch
	5318410	S-10 Type Knob MODELⒷ Tape Copy Switch
11	5318340	N-6 Type Knob, MIC Level
12	5318400	E-2 Type Knob MODELⒶ Selector Knob
	5318380	M-7 Type Knob MODELⒷ Selector Knob
13	7007160	MODELⒶ Front Panel
	7007170	MODELⒷ Front Panel
14	1131190	Power Switch
15	1102650	Speakers Switch
16	0319040	LED Ass'y
17	2430200	Head phone Jack
18	1131170	Push Switch
19	5047470	Masking, Lever Switch
20	1171220	Bass Selector MODELⒶ only
21	1010930	Bass Volume, 100kΩB
22	4300920	Power Meter
23	7726040	Power Meter Circuit Board
24	1010930, 1	Midrange Volume, 100kΩB
25	1010930, 1	Treble Volume, 100kΩB
26	1171240	Treble Selector MODELⒶ only
27	1060320, 1	Master & Balance Volume, 250kΩ MN
28	1131180	Push Switch
29	5047470	Masking, Lever Switch
30	1171120	Loudness Switch
31	1171120	MODE Switch
32	1102660	Tape Copy Switch
33	1005170, 1	MIC Volume, 20kΩ
34	2430170	MIC Jack
35	1103550	Selector
36	5416350	Holder, Dial Pointer
37	5416050	Dial Pointer
38	0400200	Dial Pointer Lamp, 6.3V 75mA
39	5516030	Teflon Sheet
40	5407930	Dial Glass
41	7036451	Tuning Unit
42	5269330	Meter Holder
43	7726060	Meter Circuit Board
44	4300740	Signal Meter
45	4300750	Tune Meter
46	0420040	Meter Lamp, 7V 330mA
47	0400420	FM Stereo Indicator, 7V 100mA
48	0400420	Indicator Lamp, 7V 100mA
49	5066211	Illumination Box
50	7136080	Tension Unit
51	6146670	Dial Pulley, D-44
52	5517050	Leg
53	5058510	Bottom Plate

Note: In parts list above, there are two model numbers as model Ⓐ and Ⓑ.
Regarding name of model Ⓐ, Ⓑ, please refer to "Notes" indicated on page 1.

9. PACKING LIST

Parts No.	Stock No.	Description
1	9116271	Vinyl Cover
2	9027940	Stylofoam Packing (A)
3	9027930	Stylofoam Packing (B)
4	9009020	Carton Case MODELⒶ
	9008420	Carton Case MODELⒷ
5	5996080	Curl Stopper



10. ACCESSORY PARTS LIST

Stock No.	Description
9209270	Operating Instructions MODELⒶ
9209280	Operating Instructions MODELⒷ
9237030	Schematic Diagram MODELⒶ
9237040	Schematic Diagram MODELⒷ

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SM052

Printed in Japan (D5720M)